

```

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121 cggggacatg gagcccgagg ccggcgccgg cggcgcgcc ggggcctctt cggtgcgga
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301 ccaccttctc gggccagctc cgcggtgtgg gaggtgggca tcgccccctg gtccctctcc
361 gtcatgcagc gccttcctac gtaaacacac acaatggccc ggggggtttc cctggccccc
421 accccagatg tggggattgg ggcagcgggt gttgagcggg aggctatcaa tagggggcga
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541 ggggtggggg cggcggcggc ctgcagctgg aggatatagg ttagttgctg gggctgagac
601 aacagcccga gttactgtcg cgtgtaattc ttacatggtc gtggggatga tggggctcat
661 catttctctc ctctctctcc ggactgcccc ccttctcagt ccgctgccct ttttcacttt
721 tctatttggg gatttctctt cactgtttt acccagcaa ttattttgat ttagtcttta
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1201 tttataggtc tgattgattt cttagtgttg tctcctttt tgtcctattt ttttctttt
1261 ccttttctc ctccagtcct tgcctctctc agcctgtttt tgcattatgc agcctttag
1321 cactgtgtca aattatttac gtttttttat tacataaaat ttattacaaa tatttggtat
1381 tttattacag aaaataatac tttattatgc tttacaaata agataggtga taafaattgt
1441 gggttacagt tattgattag gtaatgtgac ttactctgtt gactttgtct gaagttctct
1501 ttgctactta ctattaacat ctaatttctc aattctcata acatctcatt ctctctgcaa
1561 tttttttttt gcatcatcat ctttggaat tcatccaata tgcctgtctt attcagcatc
1621 agcttgttta tgataatgtt tgttttctac tctttataatc atctttgtta catgccaaa
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1861 tctgtttccc ttgtttccag ttaccattca ttttgcttg tttcctggct tttggctact
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1981 atctttgttt cctttgacat ggaaatttat ttttaggata cattgttttt aatggataaa
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2281 ttgaaccgt ttgcaattct gtaagaagg cttttgtgaa gtaaaatctc taccctcta
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2401 gtgagagcga gggccatgga tttctgtatt tggcacatgt cttgagcagt tcccatgtac
2461 caatccttga gaacctctag gctagctgaa ttttaagtata aattgccagt aattggaaag
2521 catattcata tcttctgaaa ctataaggat actctcattt tacttggtta aaaaacaagt
2581 gtttctact gtctcttcta cccaggtttt aatgtttagt ggtgaacagt agttttccct
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2701 aatgtatctt cttgaatgta aatatcagta ttacagatga taaaataaat tcctccaaga
2761 aataatttta aatttgaagt tgatattcag tggaaactga aatgtgctgt ggtcttttat
2821 ttgaagtctt ccttacattc acttaaaggg atcttttact gcaaattaca tggaaagaat
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3181 acttaaagca aaaatttcta cgtattatta gacatactgt gatttattta actaatcatt
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3361 agtattaata ctttgtaggt gctcaaaatg gaatttctg gtaaatgatt agtgcttatt
3421 aatatattat caaatgaatg tacttgtact tttggcatta aacattaaca tctgaccatt
3481 tatatttacc tgattttttt tctatggcca tatggtatga aatagtgtat ggtataaatt
3541 aaccatattg tataataaat acattttttt aagtgtgata ccagagtgat atttattaac

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FIGURE 1A

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3601 tgttcttcttct gtgctgtttc tgtagaaggg agcttctcac aattgcatta gaattacaat
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3721 atgtattgac tagggaatat tctgggatat aatctccttt ataatgaggt ccactgtatt
3781 aaaatacatc tttgcaagcc acaccagggt ggattgcatc ataaccctga aaagtgggat
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4081 aaggaataaa ctgtcagtaa acagctaaga aaggaatgtt ggactgggtg cttgaatcct
4141 tgaatgtagt aaatgtgagt gcaaacttga ttaattgta catgtatttg gataataggc
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4261 cttgctttct tgattagaat gaataggagg tgggtctgga tatagcagct ggaaacctgt
4321 gttccatgag tgatggggaa gagaggagg gaataggttc ctctgatttt tggcattttc
4381 taagacctga tgcccacctt gtcagagaat gcgatgacta cttttgtgtt cttccttttc
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4681 gttttaagtc ctttactcat tctgtttctc tattttaact tacattgggt attctgtaaa
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7141 aactagattg atttatttga gagggagaga gaggtggagt ttcactgtat tgcccaggct
7201 ggacttgaac tctgggctca agcaatcttc cagcctcagc ctcccaagta gctaggacta

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FIGURE 1B

7261	caggcatgca	ccaagcccag	ctcctagttc	ctctttgcac	tcagtttcat	cttctaccct
7321	cagcccctgg	caaacactgg	tctgatctct	gtgccctttc	cagaaagtca	tataaatgga
7381	gtcatataaa	agtcatatca	gtggggccgg	gcatgggtggc	tcacacctgt	aatttcagca
7441	ctttggggagg	ctgaggaggg	cagatcacct	gaggtcagga	gtttgagact	ggcctggcca
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7741	aatcaccttg	gcacttttat	tgaaatcaat	tgcttatgtt	tgtgagtttt	ggattctact
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8461	gggcctatag	ggccccttta	ctttgtttta	aactgcactg	atagcttttt	actggttagc
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8581	ttaaaaacaa	aataacagga	aacacatgtt	tctagagagg	aagtggtgaa	tacctgacta
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9481	gaattagtca	cttatttttg	catattttta	acagtttaat	gtactgtttg	gggttgtttc
9541	tcaattgact	tgatattttt	aaactgtatt	ttttaccttg	taccattttg	tttgcaaat
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9661	cataaaattg	taattaagtc	ttaaagtagt	atgggttttt	tttttttttt	tttttgga
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9781	ctccgcccc	cccccccccc	gggttcaagt	gattctcctg	cctcagcctc	cagagtagct
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10501	atgcactgaa	cttctagtag	gccatatgtg	ttaaagtagat	cataggagtg	ctatgaaaat
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10621	ttttaagaca	aaagataaat	actatgtatg	taaaaatttc	ctttcagaaa	tctttgttct
10681	tttttttggt	ttgaatgttc	aatatgctta	gcacagggtc	ctagttaaca	cttttgccag
10741	ttcttaatgt	gggactgact	gatgattgtc	ctagaactgt	ttcagtggtt	actacattct
10801	attaatgtta	ctttaaaaca	ttattttaatt	aaagaacat	gaagtggcaa	catactgatt
10861	catgtgttca	gtaagcaatt	catgggaaag	aggttaagctt	tcttaataac	agtagaaaga

FIGURE 1C

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10921 ctgttccatt tataggaaaa ctggtaatta tgacttgtgt tttggtattt aaaagctgtg
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11341 tgacttttgt attgagtcatt tcttagggc aacaggattt catgtattca gtaaattttt
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13261 ctttttaga atcccagagt ttaccttggt ttactcacta tatcgtattg tggggttttt
13321 ttgttaatag gtatttcttt ttctctaga cctgactgt tcagtcatac tttctgtgat
13381 gatggaatg ttcagtgtcg tcttaatatg gtagacagta gccgtatcta tgtggctact
13441 gtgcacttca aatttgcata gcaggactga ggaactaaat tttatttcat ttaattaat
13501 ttaaaaaata ctagcctgat ggctagtggc tgctttaatc agtgagttc tagaccctt
13561 caaagtcaag agtgtgtggg attcatactt attctctcgt tgcttaacaa taatactgtc
13621 taatacttaa atgactgaat tctttttcgg tactcttagt ctgcatagtt ataactcacc
13681 tagaatatgg cagttttgtt ctctagattt ctgtctttaa ccatggcttt tcagtttgtt
13741 ttcaagatta tgttgattta cacagcactg agttcttcag tccgtcgaag tttagcgtttt
13801 ggttggtatg ggtggctggc atctgtaatc ccagcaatat gggaggctga ggcgggacga
13861 ctgcttgaag ccaggacttt gagatcagcc tgggcaacat agcagagccc tgcctctaca
13921 aaaaattagc tgagtgtggt ggcattccca tgtagtccca gctacttggg aggtcaggag
13981 cgggaggatt gcttgaaccc agttcacggc tgcaagttagc tatgatcaca ccactgcact
14041 cctgcctggg tgacagagca ggagtcaccc tctcaaaaaa aaagtgtatt ttttccctt
14101 taggactgaa aaaattgggt gttacaagat tacctcaagg actggtctga gaactgggga
14161 tggtaaggaa gaaactcaag tgccagcctc ctggtttgtg ggggtagggt ggcaatttct
14221 gtttcaacca aagcagttct acttcaataa ttaatatatt ggaattgtgc ttgggatttc
14281 atttggagg gaaaaaagtc ttctaataca taacactggt aattgaagag acaaaagcatg
14341 catatggcag cacgtgatta accaccaaa gggataacag atcaagaaga catgggaagt
14401 tgttatggg tagtgaggtc ttgatggaag ttaaggttta atttaggtag gtagaaggaa
14461 gacaaaagga tgtaataggc agtgggaata gaatttgcaa agaattggag ttggaaatag
14521 atatgttagt tttggttaag aaacaatgag ctgattatag ttgagcaaat tgtatgaaat

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FIGURE 1D



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14581 aaaatttgac aaaattagat gggactggat thtagggaaa agtगतगगc tgacaaaaag
14641 tgcactttat attgcatgca atgagatgaa atactcgag gtattttggt tgttacaaag
14701 atggaggaag aggacactat tagcatttaa tgagaaagga tcagggaagt cagccatccc
14761 acaatgttca ggacagtttg cacatttaag aattgttcca aatcaccaca tgacctagaa
14821 tgacttgctg gactttgatg atgtaggtta aaaaaaaaaa gtgatcataa tggatgtagc
14881 atagacagta actccatttt gtgtatgagg cacttttttg ttgttgtgtg tgttgtgtgt
14941 gttgtgtgtg ttgttttgag acggagtttc gctctgttg cccaggctga aatgcagtgg
15001 caccatctag gctcactgta actgaggcac ctttaatata cactaagatt ttcaggaatt
15061 cagttaccac aatattggag gaatgttaaa gtttttgttc agaactttat caggagtact
15121 ccacccttt agaaaatcac gtaattgatg gcagtgtcac ttgtgtgta ttggtgacgc
15181 aaatactctt cagtctgcag ttgtaactgc cacagtcaaa gtgcttggtg tatatatgta
15241 caaagtacca tcagtgtgtt atttattata gtaatagcct aaatattata aaattgcact
15301 aaggtagatt atctctgaat tacatttatt ttttattttt atttttgta cggagttttg
15361 ctcttattgc ccagggtgga gtacaatggc gtgctcacca aaacctctgc ctcccgggtt
15421 caagcgattc tctgcctca gcctcccaag tagctgggat tacaggcatg tgccaccatg
15481 cccggctaatt tttgtatttt tattagagac gggggttttc catgttggtc aggtgtgtct
15541 tgaactcccg acctcaggtg atctgcccgc ctggcctcc caaagtgtcg ggtattacag
15601 catgaaccac tgtgcccagc ctctgaatta catttaaggg tagtatagag aatgtacaaa
15661 atagttgttg taaaaaggag aaattgattt ctgttttcag tattggaaga ctgggttatt
15721 cagatgaaaa caattaaaaat tcttggaaac agtattaaaa aaaaaaaaaa aaaaagaaaa
15781 cgtagagcag ttgcagagct gaaaagatag tggggagctg ccaggccaaa tcttaggaat
15841 aaacaagaat ccaataaaat aagtggatga agtagctttt gccctaaagg cagtgtccaa
15901 tctgtacaag ttgggctttg gtttttggtg accattgggg tgaagaggac agaatcaag
15961 tcttagagtt catctaaagt gacagtcaaa aagaataacc tcagttttag atgggacccc
16021 agtgactcta tcgttaggtt aagggtgaaa caactgaact gtctacacac tcccatatcc
16081 atgtgattgc aggggaaggt gaatggagca ggaggaggaa aaggaaatta agaaaaataa
16141 accttcaag ttgtgaccac agttttagcc ttcacagtga tttgccttga gggtttgctc
16201 tgtctgggtg gtccaggac cctccatgat aaatgacctt ccagccattt atcatggtta
16261 ctggtttcag actagtatta cttccatggc ctggcagatg gaaaggcaaa tcacgtgtgg
16321 agaaaggcct ttcattctag ggaattgctt ccagtaattt ttcaaggaca atgaacagta
16381 cattgtcaca agtaatcaaa catagtaaaa ataaaaaaat tagcaagcaa aattacctga
16441 gagatatata atatgtaata tatatgtaga attctttcag caatgtaatt aaaatttgtg
16501 tgggtttctt tatgtatata tacctaaaaat tacgttttta cagagaaaaa ataataacca
16561 agcatgcac caattggcac tgtgaataag aagagagcag aaacagatct ataaaatctt
16621 caaatgttgc aaatatcaga tggattttaa acaatcactg ttaaatttaa agaattggag
16681 acaaaactga agaacaaaag actcttataa agtgacttag ggccaggcac ggtggctcac
16741 gcctgtaatc ccagcacttt gggaggccaa ggccaggcga tcacctgagg tcaggagttc
16801 aagaccagcc tggccaacat ggtgaaactt tgtctctact aaaaatacaa agattagcca
16861 cgtgtgtgta ggtgcacctg taatcccagc tgctcaggag gctgaggtgg gagaatcact
16921 tgaacctggg aggtggagat tgtagttagc cgagatggca ccactgcact ccagcctggc
16981 ctataagagt gaaactgtgt ctcaaaaaaa aaaaaaagtt actttggttc atgcctgtaa
17041 tcccaatact ttgggagact gaggtgggag ggtcacttga ggccaggaaat ttgggacccg
17101 cttgagccca ggagtttgag gctgcagtga tgtatgattg tgccacactg cactccagcc
17161 taggcaacag aatgagaaac tgtctcaaat aaaggaaaaa aaatggctgg gcacggtggc
17221 ttatgcctgt aatcccagca ctttgggagg ctgaggccga cagatcacga ggtcaggaga
17281 ttgagaccat cctggctaac acagtgaaac ccacactcta ctaaaagtac aaaaaattag
17341 ctgggcatgg tggcaggcac ctgtagtccc agctattcgg gaggtgagg caggagaatg
17401 gcgtgaaact gggaggtgga gcttgcaagt agctgagatc gcaccactgc actccagcct
17461 ggggtggcagt gcaagactct gtctcaaaaa agaaaagggg gggaaaaacc caacttaata
17521 gatttgcaaa aaaccaaata gaaattccag aagtgaacac tttaccaaat atacctaa
17581 gattatgcct agctgaagaa agagttcatt gcctgggaga caaggcagaa gaaactgttt
17641 agagtgtagc acagaataaa aaagaaaaata ttgaagagag gtaagagac atggaagaca
17701 gaataagatc taatttcttt aatcagagct ctggaaagag aggagaaaga atggtacaga
17761 agtaatatat caaaagatat ttctggctga aaattttata gatccaatga gaaaccagtt
17821 gattgattta agaaggttta tgaatttcta gcaatataaa tagaaatcta caccagaca
17881 aatcatagga aaactgcata aacccagata caaggagaaa agtcttgaag gtagccagag
17941 agaaaaaaag atgtttttca aagaagcaac tatggactga tggttgactt ttcaatagaa
18001 aattacatat attctcaaaa taactgcca tctagaattc tgtaattagc aaagaattat
18061 ccctctacaa tgagggtaaa atacttagtt gaacaaactc catcagctct ttctaaagga
18121 aattatgaag tatacattaa tacttaaggc agaaagattc tagataaaaag tctgaggtgc
18181 aaaatggaat aaagagcaaa gagagtggca aatatgtgga tgtattaaaa gaaacgttga

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FIGURE 1E

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18241 ctgtataaag tactagtaag accttaatta aaatatgtga caagaagctg ggcattggtac
18301 tttgagaggc tgaggcgggc agattgcctg agcccaggaa tttgagacca gcctgggcaa
18361 catagtgaag tcccgtctct acaataataa taaaaattag ctgggtgtgg tgggtgcatgc
18421 ccatagcccc agctactcag gtggctgagg tgagaggatc gcttgagccc ctgagaccct
18481 ggctgcagtg atccttgggtc gtgccactgc acaccagcct gggcaacaga ctgagaccct
18541 gtctcaaaaa aaatatatga caggcgaagg ccgggttcta agacctttgt attgtcagag
18601 agaaaggtag aaagtattaa ttgacttgac cttgataaat tatatgtttt aatttctttt
18661 tttttttttt tttttttgag acggagtctc gctctgttgc ccaggctgga gtgcagtggc
18721 gggatctcgg ctactgcaa gctccgcctc ccgggttcac gccattctcc tgccctcagcc
18781 tcccaagtag ctgggactac aggcgcgcgc cactacgccc ggctaatttt ttgtattttt
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18901 cggccgcctc ggccctccaa agtgctggga ttacaggcgt gagccaccgc gcccggccta
18961 tgttttaatt tctaagttat cttctaaaaa tgtagaaacc agacttttaa cttctcaacc
19021 aacagaagat acaaatgat taataaaaa taatcctgaa gaagtgaaga aaagaaagaa
19081 ccagtaggac aagtagcaca aagatgggta gatttaaate taaacatac accagctaca
19141 ttaaatacaa aatggattaa attattcagt taaaagccaa agattgttac actgaatttc
19201 caaaaaaatt cagttatatg gggtttataa ggaacatac tgaaacctaa gaataaagaa
19261 gatcaaaagt aatcatcaca ataagacata ccatgcatat tctagcagac agtatggtac
19321 agttaatatc aaagggtggac agtaaggcag aaagcattat tggcagaaga gtcacctcaa
19381 atgataaaat gaccaattca ctgtgaagat ttaatagcct tagtaataata gtataacctg
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19621 gtatagaacc cattctaccc aacagtggca ggctacacat tcttttcaag catgtaggat
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19741 gattgaaacc aaaaaagcat tttttctgtt ccattttcat taaagatctc tatcaatagg
19801 gtaattttta aagcttcatg ttagaaattg agcaactatt aatacttggg aataatctgg
19861 tcaggcgtag tggctcacac ctgtaattcc agcactttgg gaggccgagg caggcgagat
19921 acgagggctg gagttcgaga ccagcctggc caacatggtg aaaccccgtc tctactaaaa
19981 atataaaaaat tagctgggag tgggtggtgca tgctgtagt cccagctact tgggaggctg
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20521 aggataggat ggctatgcca gtttcttaag acaacagtga ggtttgcgac atcagttgac
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20641 gtagaactgc ttttaaaatt agagtcagtc ctctcagatc tgccagtgtc tcatcaacta
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21121 ctatggcggc tatagcccaa tgaaaggtag ttcttaaata aggaatgttg aaagtcacaa
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21361 caaactatgt tgtaaaagaa tatgctgtca tccaggcttc attgttccat ttacagagca
21421 cagacagtaa attttgcaga attccaaagg ccctaggatt tttggaatga taaatgagca
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21601 cactgaggc cgggagtcca agaccagcct ggccaacatg gagaaccctt gtctctacta
21661 aaaaaataca aaattagcca ggcattgttg cacatgcctg taatcccagg tactcaggag
21721 gctgaggcag gagaatcgct tgaacccggg aggcagagggt tgcgggtgagc cgagatcatg
21781 ccattgtact ccagcctagg caaaaagagc gaaactccat ctcaaaaaaa aaaaaaaaaa
21841 aaaagtcata ctgtcctttg aagctttgaa gcccaaccatt gacttaggga aatgtttgtg

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FIGURE 1F

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21901 ctggtttgat cttctatcca gatcactaaa actttcttta tatcagcaac taggttgttt
21961 tgcttgcttg cttttcttaa actatttttc ttttaattct tagagggctc cactgtgttg
22021 gctaggctgg tctcaaactc ctggcctcaa gcaatcctcc caccttggcc tctgaaaatg
22081 ctgggattat aggcattgagc cgtagtcccc ggctgtttt gctttcttat cattcatgta
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22381 agaaggggtt agggcagtag ctggctcagt gagcagtgag aacacacaca acattttactg
22441 aagaagttca ctgccttata tgggtgtggt tcgtggcacc ccaaaagaat tacaatagta
22501 acatcgaaga tcatagaaca ctaaaataga cagcataata atgcagaagt ttgaaatact
22561 atgagaatta ctgaaatgtg acagagacat gaagttagca tatgctgttg gaaaaatggg
22621 gccaacagat ttgctcgatg ctgggttgcc accaaccttc agtttgtaaa aaacaaacaa
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22921 gtactgtgat gaaagtgtgc ccagatgca gaagaatcac agaaaaggag cacaattcaa
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23461 tatctagggt ttgtaataga acacttctct aaatacaggt taagtactgg gactaccaac
23521 aaacaaactt acaacactaa ttttattatc tcataattgt atttacaatt tttcttgatc
23581 atattttttc atacaaactt taattagttt ctattaattt cttttaacat aggaagctta
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23761 gagcagagag ggaggtgac cttgagggtc tcacaggcat gggtttttag gccagcctg
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24841 cacagtattt tagtcttgg agtggcacc catcattctt gccatattct tttgttaga
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25201 acaatgagag accatttcat atagattggc agaaatgaaa aaatctgaca atattaaatg
25261 ttggtgaggc tatgaaggag cttccactga tggatgggaa tggtatggaa gtaaatggg
25321 ggggaaaaat cttttgaaa ataattaggat atcctataac cagcaatacc actcactctt
25381 aggcgtttgc ctagactaa tggttcttga gtatgcatca aagtcactct gagggcttgt
25441 taaacccagc tgttggggt acccttagag tttctgatta agtaggaatt ggggtggagcc
25501 tgatagtttg ctttgcattt ttaacaagtt cctgccggga gtgggctgag ggggtggggg

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FIGURE 1G

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25561 gtgggatgtt ggtgctgctt gtccaggaat catactttga gagtcagcca ttgctttaga
25621 catagagaaa tgtgtgaata tatgaagtag gaagcatata tataagattg ctcataacag
25681 tattattcat attaacccca agatagaaaa aaagttcaag tatcctcagt agtgcagtag
25741 atatcattgt gtgtttactt atggaacaaa aaactagttc aaatagctaa ggaaaaaac
25801 cacactacaa acagctcctg cctgcacaa tatgtatgaa tctcacaaat acattagtca
25861 taccttagaa ccaagtcaca aaagattaag tgcaacatga ttctattcgt aaacagttta
25921 aaaacaaatg cagttaactg tattgttttag gaatacaaat ataggtacta gaattataag
25981 tagagatact agaattataa gaaaaatcaa ggaataatg atgataaaag tgagtgatag
26041 tgactacctc agggaggaga gaaagtggat gtgattaagg acaaatggga gacttttaag
26101 ataattggca atgctatttc ttaccttggg ttgtgggggt tgctttacag ttatgcttta
26161 atggaacgat gttttgcaaa ctctctaca tagctttata ataaagggaa aatttatctc
26221 atttaatttt catctctgat tactagttag gttgagtatg ttttcattatg ttagcctttg
26281 ggttttttct taaattgttt atagacatgc catttgtaga ttatgctatt tgtttttaga
26341 acttattttt aggtattctg ttatggatag tcttctttat ccatcatatg tcaaatattt
26401 ccttctagtc cttttttatt tgtattttta tttattttta tttctttttt aagaggcagg
26461 cctccactc tattgaggcc taggctatgg atagtcttct ttatccatca tgtcaaatat
26521 ttcttcttag tcctttttta tttgtatttt tattttattta ttttttttaag aggcagacct
26581 cccactcctt tgagaccag gctggagtg gtagtggtga tcatagctca ctgcagcctc
26641 ctgggctcaa gcagctctct agcctcagcc taagtaactg ggacaaatgc acaccactgt
26701 gcccaactaa tttgaaaaag aaaaaatttg tagagatgga gtcttgctgt gttgcccagg
26761 ctggtctcga ctctggctt caagtgatc tcccaccttg gcctccaaa gtgctgggat
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27001 actttgggag gccaaagtga gcagatcatg aggtcaagag attgagacca tctggcatg
27061 gatgaaacat ggtgaaacc catctctact aaaaatacaa aaattagctg gacgtggtg
27121 tgtgtgcctg tagtcccaga tactcgatag cctgaggcag gagaattgct tgaaccggg
27181 aggcagaggt tgcagagct gagattgtgc cactgcactc cagcctggcg acagagcaag
27241 actctgtctc aaaaaaaaaa aaaaaaaaaa agaaaaaaga aatctttcct atccagagtt
27301 aaaagcatat tctctatatt gtcttctgat aaattgaaaa ttttaaaaat tttgtttagg
27361 tatttaagca gtctagtatt tgttatatga agatgtcttg ggggatgtta ttttcccaac
27421 accatttgta catatgtgca cagtcttttt ctacttatt tgtaaagcaa cctctcattt
27481 ctaccagatt ccatggacc gatttctggg ctacttctta acctgtttgt ctataacctg
27541 tttgtccaca ttactacttt atatcttttg ttttgtaat gccagtctct tctctttgtt
27601 ttttgcggc aaacatatgc tcattcactc ttccacgtga ccattagaag atccagattg
27661 tcaatgtcct ctaagtctag gtatttgggt aaaaaaaaaa aaaaagaatt aggttgtcaa
27721 attctgtaaa agtactatt gggattttca ttgtgattgc attaagttta tatgttaatg
27781 tagggacata tatattagag atttattatg atactgagtt ttccaattca tgaacatggt
27841 ttttatcttc atttgtttat aggtctcttc cccccccacc cctttttttt tttttttttt
27901 tgagatggag tctcgctctg tcacccagcc tggagcacag tggcacatc ttggcttatt
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28141 caaagtgtg ggattacaga cgtgagccac cgcgcctggg catgtgttt ctatttttag
28201 tagagacagg atttcacat gttggccagg ctggtctcaa actcttgacc tcagggtgatc
28261 caccgcctc agcctcccaa cgtgttggga ttacaggtgt gagccactac tccagctctc
28321 gttttttttt ccttaaaaagg tttatagttt tctacataat gttttcatcc ttttggatgt
28381 ggaggattgg tattatttgc gagaatcttt ttgtgctgtt gtgaatgaga tgtttagaaa
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28561 caaggtgaaa ccacagtggt gtatcaatct gccccaggta ggatggctgc tataaaactg
28621 tagaagactt gggaaatgca aatcaaaacc acagtgaggt attgtctcat ccagtttagg
28681 ttggctgtta taaaaaagac aaaaaattaa aaatgctggt gaagatacag aggaagaga
28741 actcttggac gctcttgggt ggaatgtaaa ctagtacaga cactgtatca gtatggaggt
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28981 aatgctattc agccgtaaaa aggaaaaaatc ctgtcatttg cagcaacatg attggaactg
29041 gaggacatca cgttaagtga aataagccag caaaagaaag ttaaaccctg catgttctca
29101 ctcttatgtg gaagctaaaa agagttgatt tcatagaagt aaaaagtata acagaggata
29161 ctgggctgg gaatagtagg ggtagagtgg aagctctggg gagatttatt catggataca

```

FIGURE 1H

29221	aaattacagc	tagataggag	gaataagttc	tagtgttctg	tagtagtata	gggtgactat
29281	agttaataat	atatagtttc	atatagctag	gaggaggata	ttgaatattc	ccaacacaaa
29341	gaaatgacga	atgtttctcc	tgtcttttagt	gagaatgctt	ctgttatgct	tggtgactta
29401	cagacttttt	atagataccc	tatatgaagt	ttagaatgt	ttcttccatt	tctagtttgc
29461	tgacagttgg	gcattttttaa	aaatcctaaa	tggttggtga	attttgtag	atgtttttcg
29521	tacattttatt	gaggtgatca	tggttttttcc	ctacattgat	ctattttagg	aagtaattgt
29581	attggttagac	ttcctagttt	tgagtaagca	actcttggtg	cactggatac	attttattgt
29641	atattctttt	aattgattgt	tgaattagg	ttgcctaatt	caggttttta	tttagggatt
29701	ttacgactgt	gtttacaagt	gagctcagtc	tatacctctc	tgagctgttc	catgggtttg
29761	gtatcaagag	ctgattcgtt	ttctagagtt	ttctgtgatt	ttggccagtt	tttatatcag
29821	accaaagaaa	atgtttctcg	aaagtaagtt	cattaggctt	taagtaacca	ctgggcccc
29881	tctttgactt	tcaacttttc	tgagtgagtt	ttagatgtgg	atgttatata	cagcattttg
29941	tcagggcctt	ggtttgtag	ctgagtttct	ttttttattt	ttttaataga	tgagcttatc
30001	tcattttatat	tttggtgata	aggcagttct	tccacattat	taattatatt	tttctttggg
30061	ggctttgtct	cttatgggta	tgtgtgtgtt	tcccatctaa	tagtttttga	tgatttttta
30121	taaactcttat	tctcttacta	ccttcataga	tttaatatct	gtaagcctcc	atttcttgat
30181	ttgtgaaaat	aatcaggact	attttaactc	cttgctaata	aaggtaaaga	aatcagtaca
30241	ctttatcctc	cctttcccca	gctaccatta	aaaaaatttt	tttccatctc	ttcatatgag
30301	atataaacct	tgctattgaa	aaaaatgcat	ttatttttta	ctttatcctt	aagtctcaga
30361	gttacatgtt	tgaatgggat	taataattcac	ctttaattct	ttaaaaccat	gacttcttga
30421	tttctaattc	tgttttattt	atcttttcat	cagcttgatt	ttcctatcaa	gtagttctgt
30481	tttttctgcc	agaatggct	tcttttttcc	ttcttcagcc	atttctttct	gtttccaccg
30541	tggtccttcat	ttctgaagt	gtctttttat	taccttccat	ttctttcttg	aacctgtga
30601	actcactttt	catttcttat	ttcttttttt	tgagacaggg	tctgggtctc	tcactcaggc
30661	tgaggtgcag	tggtgtgatc	ttggctcact	gcaacctctg	cctcctgggc	tcaagccatc
30721	ctcccatctc	ggcctctcaa	ttagctggga	ctacagacat	gtgctaccac	acctggctaa
30781	ttttttgcat	ttttttgtag	aggcaggggt	tcacatgtgt	gaccaggctg	gtctcaaatt
30841	cgccctggcc	tcccaaagt	ctgggattac	aggagtgagc	cactgcctcc	tgccctcatc
30901	cccatttcat	ctgttcttca	attttgtttt	ttcagtcatt	ttttccctcc	aaaatgcatt
30961	tgatagtgat	agatggggat	atatcagaga	cttcttttgt	ttccttgact	aactctgggt
31021	gtttatctgt	ctttgcctat	tatgtttctt	ctctcatccc	ccactccctg	ttttattggg
31081	ggtgtggcgg	gtggggtgt	taacgtttct	cctcatagac	cctttgctgg	attgtttctt
31141	tttattactc	atccttgttg	tctttgagta	gagtacttct	atttgagcct	gctctttgct
31201	taagaatgtt	atggggggct	gggcacagt	gctcacacct	gtaatcacag	cactttggga
31261	ggccgaggtg	ggcagatcac	gaggtcaaga	gatcgagacc	atcctggcta	acatggtgaa
31321	accccgctct	cactgaaaat	acaaaaaatt	agccaggcat	ggtggcgggc	gcctgtagcc
31381	ctagtctact	aggaggctga	ggcaggagaa	tggtgtgaac	cctgggggca	gagcttgcat
31441	tgagctgaga	tcgcgccact	gcactccagc	ctgggtgaca	gagcaagact	ctgtctcaaa
31501	aaaaaaaaaa	agaatgtta	tggggaacag	cagggagaat	aagcctaagc	aggcataact
31561	tttttctcag	acatcttgtc	tcagaaagct	cgttcaccaa	atctgttgtg	ttctctaccc
31621	tggggaatata	tcactcctcc	atttttaatg	tcttttttcc	ccttctgccc	attttgggcc
31681	aagccaatca	ttcagtcagg	atgaagactc	catccaggca	ggagatgggt	gaggctgata
31741	gtgaagtgtg	acatcaaata	gattcctgtt	cgatgatttg	atttttaatt	tgttctgctc
31801	agctgccttt	agcttttaac	cttttatatc	ttatgttcaa	tagttattct	cacaaaggaa
31861	ctggttccca	acataaaatt	aaaattaaaa	gtgatcagtt	ctctcctcta	gcaaactgta
31921	actgctttta	ttttatgtga	cttgatctga	tgtattgttt	tgttccctgg	atcatttagg
31981	ggtggggaag	taaagacag	gaggtctgtg	tttcaactta	aaaacaaaat	ctaaaccaga
32041	taaaaactcg	taaaatgtca	tatttcagg	cctctgtgat	cttgcccttt	cctacctctc
32101	taccctgcc	cacgtctatc	agccatcctt	gctgtgtact	aaatgctcta	gcacagtatt
32161	tcctaaagtt	tatattgtgg	atactgaata	ttcaaagtgt	tctcccaaag	ataggttcca
32221	tagtttacaa	ttttgggaaa	ctttaaatgt	tcctccttgt	ctaacctgtt	gagtttctaa
32281	gctcaaata	ggggggatac	tgtgttatct	aaatcttatt	tgattttctgt	atttttacata
32341	tttaagggatt	catctaaaaa	gtatctgaat	tgatttgcca	agcaggtgat	acctgtact
32401	atattatata	gctccccctt	tggtgatttca	taattggata	ttagcatagt	aatgggttag
32461	aagaactgta	gtaaagaagc	ttacctttgt	tgattttatt	tttttttttg	acacagattc
32521	tcgtctctc	accaggtctg	gagtgcagtg	gcacaatctc	ggctcactgc	aacctccacc
32581	tcctgggctc	aagcaattct	gttacccttc	caagtagttg	ggactacagg	tgtgtgccac
32641	cacacctggc	taattgtttt	taaatatatt	tagtagagat	ggggtttcac	catgttgccc
32701	aggctggtct	tgaactcctg	acctcaaatg	atccacctgc	ctcggcctcc	gaaagtgcgt
32761	ggattacagc	attagccact	gcacctggcc	ttacctttgt	ctaaattaga	attgtataaa
32821	cttccctgac	tatggaaacat	tgcttgtgtg	tagtatatgc	taatattctt	tgaaacattt

FIGURE 11

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32881 tagggaaatg ctgtttaata ccaatcaaat ccttgcaattt tttcagggtt gtttcctggt
32941 gtttctggcc ctttgtccta gaatgctctc ttccttcatt ttctccatac caccacaattt
33001 ttttttcaa tggtttctga ggtgatactt accctgctgg gaggcatttg gaaatatttt
33061 gattgtcatg cctggaggat gctatttggg atttaatgcc ctcaaatcga ggaacacaat
33121 gcactaaaag tcctacacag caaagaattg cccacccaa aatgccactt ctacagtggc
33181 cctccatata tgcaagttct gcctcctagg attcacccaa ctgcagatca aaagtattag
33241 gaaaacagta aaaagtaata caataatata aatacaagat aatacagtat aacaactatt
33301 tatataacat ttacattata ttagtcatta taagtaatct aaagatgatt taaagtatat
33361 ggaaagtaag ttatatgcaa ataccctccc tttttatata agagacttcc gcatccaagg
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33721 tctttgaggg caaagacatt ttgtatcctt ggtatatgat atataattag tcttttaaaa
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33961 gtgacagctg ttagagtagt gttttatttg ggttttgacc ttgcctgtac atcagaagca
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34261 tagaaaaaaa aaatctagat ggagtatgtg agttctctga gggctatagg aatttgtccg
34321 tcttgctcac cactgtatcc tcaactccta gcatgagcct gagcacatac agggatttgg
34381 tagatattta ttggctgaca gaagaatatg tatcattagg tgtttaaaag atagtcattg
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34561 tgtgccagtc actgaggatt ccatttgatt ctctggtcaa atctatgaag tttgtatcat
34621 tcaaataata gggctgtgtc aagaaactga cacttggggg ttaagtaatt tgcctaagg
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36301 gcaataatgt tttcttcagt atgaagtttg agatctgttt gtaggaatta attttaagtc
36361 acttgtccat tctataaggt ttagttaaaa cttggtaaca taatccatac gtttacttaa
36421 atcaatatat gtgagtcata gtatgtcaca atgagataaa tgcaagagga gagccactgt
36481 caagtgttct gcagtatgga atgcccagcc ttcagcagac ctcttgacta tatgtgtcac

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FIGURE 1J

36541	atctctgata	ctaaccctaa	gttaggggtgc	ctgtgtaa	attaaatgct	gaggccagggc
36601	acagtggctt	acgcctgtga	tcccagcact	ttggaaggcc	gaggtagacg	gatcacaagg
36661	tcaggagatc	aagaccatcc	tgactaaaca	cagtga	ccgtctctat	taaaaacgca
36721	aaaaattagc	caggcatggg	ggcatgtgcc	tgtagtccca	gctacttggg	aggctgagggc
36781	aggagaatca	cttgaaccca	ggaggttgca	gtgagctgaa	atcatgccac	tgactcttag
36841	cctggatgac	aaagcgagac	tctgtctcaa	aaaaaaaaa	aaaattaaac	gagcatgggtg
36901	gcatgcatct	gtagtcccag	ctacttgggt	ggccaagggtg	ggaggattgc	ttgaacccaa
36961	aagtttgagc	ctgcggtgag	ctgtgatcac	actactgcac	tccagcctgg	gcacagagtg
37021	aaaccctaca	tctcaaaaaa	taaatattaa	atgctgactt	tttctaagt	tctagatgaa
37081	cacattaact	aaataatgta	gcctacctat	atccccaaaa	aagagtcttc	ctatgggccc
37141	tcagggtgat	gtgcatacct	attttgtaaa	ccacttgttt	gaccatcaca	ttgtaactta
37201	ttgttcaatt	tgtgtcactg	cagccatatt	acccaaaagg	gaaaagtaat	tttagctctc
37261	tgaactgacc	tccacctaac	caactcatca	ggttaactga	tgttctccat	ttcaaaaaat
37321	atttgcggtc	agattaggtg	tgaatcatat	ttaaaggaag	attgttgggtc	ctatatcaaa
37381	gattagagaa	tgaatgttca	ttttacagtt	ttaagttaaa	atgtttaagg	acagtgttta
37441	ccattgcaca	tgattccctg	atttaactga	ccttttcagt	taactagcca	ctagacataa
37501	ttacattgac	tataggggtc	tcttttgtgc	cacaccagtg	ttggaattgt	gttgatttac
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37621	agctgaatta	ttatacaaag	ttttcaaact	ttctgttttg	gaatggtcag	ttactcaaaa
37681	ctgtggcttc	ctccttgcta	ccttacaggg	tagttgtgag	agtatctctc	aacaatagtt
37741	cagactctca	ttacttcttg	tctataattg	tagcatgctt	ttaatgggat	tccctgcctc
37801	cagtacctct	ctggcttggt	ggttaacata	aacattattg	ccagattaaa	catcctaagg
37861	tataatgtgt	aatcagatca	aaagccattt	ataacaataa	aaactacatt	aaaaaattac
37921	ttatgtcctg	ggcttagatg	tggtctctgc	aatcagatgt	tcattaaaca	aattatttta
37981	aaaatacata	catacacaca	cacgcaaatt	ctgaattgtg	atatgtgcca	aaagaaaaaa
38041	tgggggggtga	tgtgagagct	cagtgaggat	caaataataga	ttgggaagaa	gggtgatgag
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38161	aaagtgc tag	gcaaagagtg	ttccagggaag	aaggaatagc	atgtgtgaag	gctctgctct
38221	gctgctgaaa	ttgtggttca	gtttattgag	tatggcatag	aatgaatagt	gcctgatgag
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38761	ctcttattat	ctttgtcttc	tcctaaactc	ttactcacct	atgctataat	cataccaaac
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38881	tgttggaat	actcttactc	ccacatacac	ttaaacaaac	cctactcatt	gtttaggatc
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39001	ttcttttaac	catagtagtt	catattacta	tcacattata	gtatattatt	caacagatgt
39061	ctatgtaatt	gattatgtgc	caggtactat	gtgtagacat	tatggatata	tccacataca
39121	aaaatagaca	cagttgccgc	atttgtggaa	actacattgt	aacacagacc	ttgaacaaaa
39181	tctgggcaca	aatatgtaac	taaagtgtta	taagaggat	gaaggaatac	ctgcaggttt
39241	ctgaaaccct	aataaggccc	ttgaggtcaa	aattattttc	ataatcctac	taagatacta
39301	tttgcctttt	cattctcggt	cttgtgagta	tgtagtagtt	ataggatgta	tgatattcca
39361	acaaattgaa	tacagaagg	gggagaatcc	agatatcttt	tgtaaggcca	gacattaaag
39421	aaattggcaa	aaaaaaaaat	ttttttttta	aagccacttt	ggggccaggt	gcggtggctc
39481	acacctgtaa	tcccagcact	ctgggagctc	gaggtgggca	gatcacttga	ggtcaggagt
39541	tcaagaccag	cctggccaac	atgatgaac	ctcgtcttta	ccaaaaatat	ggtagctggg
39601	tgtggtagca	catgcctgta	atccgtccct	gtaatcggaa	ggctgagagg	cgggagaatc
39661	gcttgaacct	gggaggccaa	gggtgaagt	agctgagatc	gtgccattgc	actccagcct
39721	gggcgacaag	agcaagactg	tgtctcaaaa	taaatgaata	aataaacaaa	caaataaata
39781	aataaataaa	aatgaataag	acactttgcc	ctctcattgt	ttttgttgt	tttggaat
39841	gtggttattt	ttttcattaa	aaaatagatc	acttttggtt	attagttttt	ttgtcatttt
39901	aaaatgaatt	ttaaacattt	cttgggtata	atttttaatt	tggtaaatag	tgatagcgat
39961	aaactacata	gataaaagct	ttctaggggtc	ctccataatt	tttaagagta	taaaggggccc
40021	aagtgtgggtg	gctaacacct	gtaatcccaa	cactttggga	ggccaatgca	ggaagatcca
40081	acatagcaag	accctatctc	tacaaaaaaa	tttaaaaatt	agccagacgt	gatgggtgtgt
40141	gcctgtagtc	ctagttactt	gggaggctga	ggtgagagga	tcacttgagc	ccagagtttg

FIGURE 1K



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40201 agattgtggg gagctgtggt catgcactac attcctgcct gggctacaga gtgagaccct
40261 atctcaaaaa aaaaaattat attttttat acacacacac acacacacac acacacacac
40321 acacacacac acacatatct tatatatata taagagatcc tgaacccaaa atcagagtcc
40381 ctgtaattggg gagctgattt aaattggggg cttctggaga agtaaaagat atcttatgtc
40441 tctgttaaac acttatgttc ttctagaaat taggagtgtg gttttctccg tattttccaaa
40501 aactgcaagt cttttttatat aacgagtgtg ttggttgaat ctaattttta aaaaaatttt
40561 ttttaatttaa aaatttttta atttttaaaa atatggagtg cttcatgaat ttgcatgcca
40621 ttcttaggca agggccatgc ctatcttctc tgtattattc caattttagt atatgtgctg
40681 ctgaagcaag caccaaattt tgttatcaaa gtctactgta gatggccgtt ctttctttga
40741 tttgtggttt ggttgaaacc tttgttgga ataccatctt atttcttatt actgtaggaa
40801 atagatctgg attcaaattc ctcttggtat gaagctggga agattactta acctgctaaa
40861 ccttaccatt atttatctgt aacatggaat acatattatc ttactgtggt gtaatgattt
40921 aatgaactaa tgtatgtgac ctgattcata agtgaccaga acagagacaa tccataaaat
40981 ggtaattctt tttattttat atacacagca catacatact ggggttagtt tcagtttagt
41041 agcagagagg tctgtggata aatcaggata taacaatcat cattcaagga tatattcacc
41101 attcaaacag tttatcagaa ggcagaaaag cagaatgatc tattgtgtat ggttattcat
41161 ctttagaaaa aggaacagaa agtgtgggct tagaatattt taaataagta gctctatggt
41221 acaatgtaga tgatttaggg atggggtaga gttttatgtg tctggcacta cagcagtgcc
41281 tcacattttac taaatgtttg aataatatta attaactaga gattcttgaa aacacatttt
41341 tagaagcctt gaaaaagtta tatacgacag attaaaggcc aagcctgaga aagcttacat
41401 ggctaactgg aaaaaataat aaaggtagca tagaggaaaa acaaaattgc cctgtgggga
41461 gaacatgtgg tgcataatgg tgtgactaaa taggatccag taagataaga caaggtagag
41521 catcttggga gtgattccat gtttcaagg taaaatgtaa actacataaa aggtagtaga
41581 ccagtgaag aatcctcaag atcccagtg atgaatgtttg ccaagagata agaagatcaa
41641 ctgttttggg attcatagca gaaagccata ggaaaattat ctttttgata ttcttttttg
41701 aagaagatag gtcctttatt tatttatttt tttattttatt tatttattta ctttatttta
41761 ttttattttt tgagatggag tttcgctctt gttccccagc tggagtgcag ttggtgcaatc
41821 ttggctcact gcagcctccg cctcccaggt tcaagcaatt cttctgcctc agcctcctga
41881 gttagctggga ttgcaggcat gcaccaccat gccaggttaa tttttatttt tagtagagac
41941 ggggtttctt ctccatgttg gtcagggttg tctccaactc ctgacctcag gtgatccacc
42001 cgcctcggcc tcccaaagtg ctggcattac aagcgtgagt caccgcgccc agccaaagat
42061 aggtcctttt ttaagacaga tacttagggc tgggtgctgt ggctcatgcc tgtaatccca
42121 gcactttggg aggccgaggc aggtagatca cctaaggctc ggtgttcaag accgagcctga
42181 ccaatttggg gaaaccctaat ctctactaaa aatacaaaaa ttagctgggt gtgggtggcg
42241 gcgcctgtag tcccagctac ttgggtggca attcaaggag aattgcttga acccccggga
42301 ggcagagggt gcagtgagcc gagatcgtgc ctctgccctc caacctgggt gacagagcaa
42361 gactccatct cacaaaaaaa aaaaaaaaaa aaagatactt tgataaagaa ataatagtta
42421 tttctcattt tatttctcat ttgagatgaa ctcaaagttg gctaaagtga cacacagttt
42481 tggacctata acttgcttac attttaaata ttaggttggg gcaaaagtaa ttgtggtttt
42541 tgccaccaa tagaaaggat tgtagcatt tttttatttg acaactgtaa agctatgcag
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42661 acagataatg tggttttttt tacaaattga aggttgggtg cagccttaca tcaagcaagt
42721 ctgtagcgc catttttcca acagcacatg ctactttgt gtctctgtgt cacattttag
42781 taattcttgc aatatttcaa actttgtctg ttttgggtgt ctgtgatctt gcatgttact
42841 attgtaattg ttttgggtg ccacaaacca caccataat aaggcagtga acttaatcag
42901 taaatattgt gtgtgatcta actgctccac tgactggctg ttccccaac tcttctccag
42961 cctccgcag cctgagaca caacaatatt gaagttaggc caattaataa ctctacaatg
43021 gcctctaagt attcaagtga aaccaagagt cacatgtctc ttgaaatcaa aagctagaaa
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43141 gttgtgaatg taaaggcaaa attttggaag gaaactacaa gtgctactcc agtgaataca
43201 cgaatgataa gaaagcaaaa caggctcatc cctgtaatcc cagcactttt aagaggccaa
43261 ggtgggagga tcacttgagg ctaggagttc gagaccagcc tggccatcat agtgagacgt
43321 cgtctccatt cattttttaa aagcaggcaa gcaaaacagc ctaattgctg agatggagaa
43381 agtttttagt atctggatag aatatcaaac cagccacaac atttctttaa gtcaatgaca
43441 ggcttttaaag cttcaaagga caggctgact ctactagag gctaatgcag ctgggtgactt
43501 taagttgaag tcagtgtctc tttatcatte caaaaatcct agggcccttt ggaattctgc
43561 aaaatttact ctgtctgtgc tctgtaaatg gaacaatgaa gcctggatga cagcacattc
43621 ttttacagca tggtttactg aatattttaa gccactgtt gagacccct gctcagaaga
43681 aaaaaagatc cttccaaca tattactaat cgttgataat atacctgatc acccaagagc
43741 tctgatgatg tacaaggaag attaatgttc tcttctgttt tctatgtgtg tgtgcttttt
43801 ttgttttgag acagggtctc attcttgccc aggtgtgtgt gatcatagct ctctgcagcc

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FIGURE 1L

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43861 ttgaaccctt gagctcaagc aatcctcctg cctcagctgc ctgagtaggt gggactacag
43921 gcatgcacca ccatgccag ctaatttttt tttttttttt aatagagaca ggggtctatgt
43981 ttcccaggct agtctcacia actcctgggtc tcaagtgtat ctcttgcttc agtaattgtt
44041 ttcttaacca ctaacgcagc aagtatcttt tattaggcta tagctgccat agatattcct
44101 ttcaattctt cttattttaag taattgaaaa ccttctgcaa attattcacc tttctagatg
44161 atgatggatc tgggcaacat tcatgagagg aggtcaaaat agcaccatta acaggagtgt
44221 ccattaagaa tgtttgtgat cctgtggatg actttgaggg gtcaaaactt caatggagga
44281 ggaagaagtt cattctaatt aaatagcaaaa ataactagaa ttagaagtgg atcctgaaga
44341 aggaattgag ggtgtggtag gtcattgtaa aacttgaaga aatgagaagt tgcttcttat
44401 agatgagcaa agaaagtgat tttttgagat ggggtttact cctgctgaag atgctgtgaa
44461 cactgataaa atgacagcaa aagatttaga attttacata aaattagtgt atgaagcact
44521 ggcagatttg agaggactga ctccaagtgt gaaagtgtt ctactgtggt tcagatgcta
44581 tcagaccata ttgcctgggt cagagaaatc ttttgtgaaa aaaagtcaag cggcacagca
44641 gacttcattg ttgtcttggt ttaagaaaat gccgggccgg caggtagctt tacacctgta
44701 gcctcagcac tttgggagac caaggcaggc agatcacctg aggtcaggag atcaagacca
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44941 agcaagactc catcttaaaa aaaaaaaaaa gaaagaaatt gccacagtca ccctaacctt
45001 tagcaaccac tgacttgatc cggcagcagc catcaacact gaggcaagac ccaccaacac
45061 aaaaatgatg actccttgaa ggcccaggta attgttagtg gtttttaaca ctattttaaa
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45601 ggagtctgag actagcctga ccaacatggt gaaaccacgt ctctactaaa aatacaaaaa
45661 aaattagctg ggcatggtgg tgcatgcctg taatcccaac tgcttgggag gctaaggcag
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46681 atcataaagt gagttgaaa ttacttactc cttttctgtt tcatggaagg tattttgtag
46741 aggtggtctt atgtcttctt taaataacct atagaatttg ctactagaga tttattttta
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47101 atttgtaaat tgtattgggt ttttcaacaa acaagctttt gttttcaaca ttttttctg
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47221 tagttcttca agtttcttaa gatagatttg caactgtttt tctttgtcga tataatagta
47281 tcagtttaag agcagggtct ggtggcacat gcctgtaatt ccagctattt gggaggctga
47341 ggtggttagc tcacttgagc ctaggagtgt gaaactagat tgcgcaacat gcaagacca
47401 cccccccccc catctcttaa aaaaactaaa aaaaaataaa tggcacaagc ttaatgatat

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FIGURE 1M

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47521 taattcactg tagcactact gtatttgcac cccacagatt tagtatgctg tattttcatt
47581 cagttgaata ttgaactagc cttgtgggtcc tgggattaac cttattgtca tgtttattat
47641 gccttttaca attgctggat tctgtatgct aatattttac taatgattat gaggaatatt
47701 agtatgtaat ttggggcttc catttgactc aaagattatt tagaaaatgtg ctgtttaatt
47761 tccaggtggt ttggagatttt cctattaaact ttctatttct agtttaattc tattatggtc
47821 agagaacaaa cgtttgtggt ttttttttaa gcttgtgaaa gtttgtctta tgactcagaa
47881 tatggtctgt tttggtgagt gttccatgtg catttgacaa gaacatgtat tcagctgtta
47941 agtagaatgt tatataaata tcaatcagat cagggtggatt gatgatgttc atttcttcca
48001 tattcttact gattttctgt ctactagttc tattactgaa aggagtgtcg aagtcacaa
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49921 tgggaaaccg cttccatgat ccaattttct cccatcaggc cccacctoca acattgggga
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51061 tgtccagacc ctgtagcacg tgcttgcagt gtccgttcaa ctagtggagt gtggaaagt
51121 tattaagccc ccaacttgca gtggagggtta tcacttaaat tcacagcact ccaaatcaat

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FIGURE 1N

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51181 tgtcaacacc ctcacacaca cacagtctct agctgaacac atgccaacag agggagagat
51241 tggtcagtc tctgaagaag ggatggcagc agcctcaagc aaaaatgccag cagatggctg
51301 ggcattggtg ctcacgcctc ttatttcagc actttgggag gccgaggcag atggatcacc
51361 tgaggtctgg agttcaagac cagcctggcc aacatggtga aaccctgtct gtactaaaga
51421 tacaaaaata gctaggcatg gtggtgcag cctgtaattc cagctacctg gaaggctagg
51481 acaggagaat cgcttgaatc tgggaggcag aggttgcagt gagccgagat cgtgccattg
51541 cactccagcc tgggcgacga gcagaactct gtctcaaaaa aaaaaaaaaa aaaaaaagc
51601 cacagactgt gatgttctta ctcaggttca gccttttagct gaagtccaga gactgaaat
51661 ggttggtttg acggttttgt ccagctttat agttgctttt gggggagagg atttatcaat
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52021 actacagaca catgccacca tacctggcta atttttattt ttttttattt ttggtagaga
52081 ttagctctcg ctatgttgcc caggttggtc tcaagctcct gagctcaagc agtcctccca
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52741 ggctagtctc gaactcctga cttcaagtga tccacctgcc gcggcctccc aaagtgttag
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52921 atattagcca gtagctgcag tggctgggaa tgtggcctgt gagagtga aactaaattt
52981 tatattttat ttaatgttag tttatataaa attaaatagc catacatgtc taatgattac
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53341 caatatgtgt atgtgtgtag cctctgtccc tgtgtgggcc agaatttact ataattctgt
53401 ctctggccat agtgccaga cagaaatccc tgtagactga ttacctttt ccaccaggtt
53461 tagatcagat acaaatatat gggggcaag actgagttac tctttttttt tttttttttt
53521 ttttttagac ggagtcctgc tctgtccccc aggtggaggt agtggcgcca tctcggctca
53581 ctgcaagctc cgccctcccg attcacgcca ttctcccgcg tcacctccc gagtaccctg
53641 tactacaggg acgtgtcacc atgcccagcc aatttttttt tgtatttttt tttgtatttt
53701 tagtagagac agggcttcac cgtgttagcc aggatggtct cgtctcctg acctgtgggt
53761 ctgcccgcct cagcctccca aagtgtctgg attacgggct tgagccaccg cgcccagcca
53821 gactgagtt ctcttgaaca tgtgatttgc atctaaacca aatttgttaa aagtcttttt
53881 tttttttttt ttttaagtaag aaaaggcagt gattttgatt tgtaatgtct tttgttagga
53941 gaagtaaaag aaaaaaaatt cttgaagaaa agtgagccag aattactgcc tagggagtga
54001 tagtcatgta ggttcacaat gaagtttaga agtgctcttc gtggttccgt ttcctctttt
54061 gcttttagtg tcaggaaact aaaaactgac agtagactag ttggaagata gactagggtt
54121 tttttttttt tttctagtta acctaaagtc gaaggggtgat atcactagag acttggaggt
54181 aaaaagagct acctgcaaag acttgaagta ctaagattac ctagaatctg aatgccctgt
54241 gttactctgc agatagggca ttttactggt atgaagagat aagatctatt gtaaatagtc
54301 taaactaata ataacgagta agtatggaat tggcggtttt cctttaaagt tttagcatat
54361 aattttgaaa tgttttaaga atatttttga aatgtttcta ttttttaatt tctcttttag
54421 aagtcttatc taaaataagc atgtatatct tacatgtaag gaattattaa cttcattttt
54481 tcataaaaaa aatcagagta agactttcaa cagatgtcag gatagctgaa gttctccatc
54541 actgtcatat gtttcactta tgacaggttt gtaatttctg ttagggaatg tcatctaagt
54601 gctctgcatac tggatatttc tctgcacccc tcatgacaag aaaaaagcct ttgattttt
54661 ctcttttctc tctatttaca tgttcaccac tgccttccat gttcagatgt gatctacatg
54721 caatgatgat tactctttcc ttcttttccc ccttgccctc ttttatcgtc tttctttctt
54781 cttttttttg gttgaccctg tttaaatggg atctatcaaa tataccaagt ttcagtga

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FIGURE 10

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54841 gttacttcct tgtgttaaaa gtcattgactt tctctttttat ttatacactt aataacttga
54901 ttatatatac ttgaattttt ttttagtgca gaataattttt ataactcttc tgaaggattt
54961 ttaaagtggc agttaattcc aacatttgta ataccaacaa tgcagataac tgagttgaat
55021 gacaacagca tgaatagcct tgattaaagt gtacatgtgc agatagctac tgtgtatatc
55081 atgcctgcc a tctggacaac agtgattttt ttttcttttt ttttttttgt ttgagacaga
55141 gtctcagtct gctgcccaga ctggagtgca gtggcgtgat ttcggctcac cgcaacctct
55201 gtctcccagg ttcaagtgat tctcatgcct cagcctcctg agtagctgga attacgggtg
55261 tccgccacca tgcctggcta ttttttgtat ttttagtaga gacgggttt cgccatgttg
55321 gccaggtagg tctcgaattc ctgacctcaa gtgatctgcc taccttgccc tcccaaagtg
55381 ctgggattgc agacatgagt cactgtgcct ggtcagaaaa cagtgtattt taagatgtca
55441 tcaattgtat ggtagaatct gaattcaaa agtttaagaa ggggatgggg gaaaggtgtc
55501 tcttagaaca tgtaaaagaa catgttattt ctgtcaactt ccaaactttt atctccagcc
55561 acatctctta cttgatttca gatttgataa cccagctcct gttttacatc tccactctgg
55621 ttaatgtgcc tcccgggata ttttaaatat aatttttaat tctgcatcct atgcttgtc
55681 ctcccaacct cagtgttctt tcttcattct ttttgatttt tggctcttac atcctttgac
55741 ttaggttata aactgtagag tctcctttta tcatacctca catccaattt
55801 accagcaaat cctattgact gtacctttat aatatattta gcactctgaca catcttatca
55861 tctcttccac tatcagtctg ataaaagcca ccatcatctt tcaactggcc atcatttccc
55921 atctggtttc ttggcattta cactatagtt catttccagt atagcagcca gagtaatact
55981 ttaaaaaatat aattgatcat attgtttcct tttttcaaa agtaacttca ttgagttcac
56041 ctaccataca aatcactcat ttaaagtgt aagtgcggag gttttagtgt attcagttg
56101 cacaacaacc atcaccaaat ttaattttag aatgttttca ttagccctaa aagaagcccc
56161 acacccttag ccattctccc ccaatcttta ttttcccccc atttctaggc aatctaattt
56221 ctgtctctgt ggatttttct attctggacc attttatata cgtggaatca tacactgtgt
56281 ggttttttgt gactgcttct tttacttagt gtaatgtttc caaggtttgg tcatgttata
56341 gaatgtatca gcattttgtt tctttttatt accaagtaaa attccactga atggatatgc
56401 gacattttat ttattcatca gctgatgaat gtttgactg ttttaacttt ttggctattg
56461 tgaataatgc tgttatgaat attcacaagt tttgtgtct cctcctgctg tggactactg
56521 tttccctaac agaacgtatt aattttcttt tgtacaaaag ccactccaaa ccatagtgtc
56581 taaaacaacc actgcttggg tcaatgagca cactatattc tgcactgcac taactttggc
56641 tgtgctcatt catgtctgtg accagtgggt gttttaggta gatggctagt ctaggatggg
56701 cttgagtgg a caacttgggt ctagtaaaact agtccaggca tgttctcata gaaaggcaca
56761 ggtgagagag tgagcaagtt caattgta aagaggacaag acttgcatat ttgcatttta
56821 agcttctctt tgggtcatgt ttgtcataac tacattacaa ggtatacaca gagcaaggag
56881 aagcccaggg tcagaatgga aaggggattg cagagttacg ggtataacag tgccctacag
56941 agaagccatt aattgggggt cattaatgct atgtctgttg cacatacaca ttttgcttct
57001 accttaatgc tttttgcatt tgtttccctt ctgtttgaac tagttttctc ttacatacct
57061 gcatgctgaa cttgtttcac ttccttccca tctctgttca tgtatcatct taccaatgag
57121 accttcaagt ttaccatac tacaataatga atagccacc accccgatcc tgcctcagct
57181 ctctgttttt ctctataact tttttgacc atctgacatt gtctgttttt ttttttagcg
57241 tttatcttcc cttactaga atgtatgtct tatgaggta gggacttttag ttttaattaca
57301 ctgtcttcat tgcctagaac cctggcactc attaaatatt tgttgaatga aaaattaatc
57361 tacattgatc catttttacc taaattggaa ttatcttaaa gttctaacct gccttcatgc
57421 tatggcatgt ataaagtgtc agtcttttga ttagaatacc taatgatgga atatttcttc
57481 tacttcttat agagacatag accatgcaat atatgagtaa ttctaccatt tacttagctg
57541 tctgacttgg gccaaagttt ttttaacct cctgtttcct catctgtaaa atagggttaa
57601 taatagtccc agcctcatgg agcctggcac aaggtaggca ctgtataagg ttggtgcaat
57661 gtgtattgca taatattttt tatcacctac ttgttattgg agtatatggc acagggaaaa
57721 tgggaattgaa agctggagca atcttatatt atggagaagt tgcaaaatct ttgaaaacta
57781 ttttttcaaa gggacaaaag acataaagca aatgaaatag gtgatttttt tttcattgaa
57841 tgcatacata cattatatcc ttaaaacact gtcttaca aa gtgctctctg aaaaatactg
57901 ttcttttatt cagggtttac gaaaaagtac ataaaactag tgagcataca tcttaactct
57961 ctgagagtct tataagtacc atcctagatg catggagaga agataattca ttacttacac
58021 taggtcatgc cttaggctgt taagacttaa gtatctcatg gaacccagct tgagaaagaa
58081 caaaaatata acatcttgac taaggtggct agtgcttctc tgatcttaac tattatttct
58141 ctagcctcag gtgagccttc ttgaatgtga tttcatcagt ctctctaaag cttaccagga
58201 atatagaatt ttttaatttt tatatagcca gcacttataa actacctgtc tcatgctagg
58261 tagtataact aggtgctagg agtaaaactg atcaagtggg gtaagtccca aattcacaga
58321 gcgcacagtc ctaacaggct gtcattgcctc agttgtttat ttgtgacagt gtttccaca
58381 gacttttaat tttggaatga taggatgtgg tgctctggaa ttgtgtccca gggttttgga
58441 gaactgagag taacctggga aagcaggtta cagttagaga aagttatgac caggagttgt

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FIGURE 1P

58501	accaaaacgc	aggaaacatg	atatgtatat	tgttatgggtg	cataaaaaata	cttacaatta
58561	aaagtcctga	acctacacta	catctattgt	ttcacatatt	ttccttcaat	ttaaatcctg
58621	ctccaaatac	agctcctttc	cgaaaattca	gttttatgtg	acagaaattt	gatctgtttc
58681	actgaaaacc	catttgaaata	gtaattgtga	gcaattgttg	aatttgtaaa	tgttacgtaa
58741	atttagtgga	tgactttgtg	gacagtttga	cgttatggac	agttattctt	gatactgttt
58801	cccctccttt	cccctgccat	ccctgaaact	ttagggctta	atctgctttt	aattagccag
58861	aaaaaaatgt	ttgatcctct	tattcagttt	tagattattt	tagatgattt	ctaagttaaa
58921	ctctaagtta	gaatagtttc	tgcttattga	tttcatgaat	atcacttctc	tatttctact
58981	tctcaccttc	tgccaggcca	aaggaattgt	ggaactatga	tcatcaaact	cctaaatcat
59041	cagccttttc	cttaaaaagac	ttaaaagggt	tctatctatg	tagacacttg	tctggctcct
59101	gattacagtt	ttaccattct	caagtgtatc	tatttgtttc	atcacagtcc	acataattca
59161	gggtcaagat	actattatga	aatgactgta	aaaattacta	ataccttttg	ctctctaatt
59221	tttctctctt	ttcatcatat	gggcctgaca	aatgcccgc	tacctgctg	cacttaggca
59281	attgaatgta	gtgctttaaa	tgtataccaa	aaccctcaac	agggcatcaa	caatgtctgg
59341	cagtgcagct	gcttcttcac	tttcccaatt	aaaaatgctg	ttgctggctg	ggcgagctgg
59401	ctcatgtgtg	taatcccagc	actttgggag	gccgaggcag	gtggatcact	tgaggccagg
59461	agttcaagac	caggctggcc	aacatgggtg	aaccccgttt	ctactaaaaa	tacaaaaatt
59521	agctgggtgt	ggtggcgtgt	gcctgtaatc	tcagctactt	gggaggctga	ggcaggagaa
59581	tcgtttgagc	ccaggacgcg	gagctctcgg	tgaaccaaca	tcgcactact	gctctctggc
59641	ctgggcaaca	gaatgagact	ctgtctcaga	aaaaaaaaaa	aaaattcatt	tcctccactc
59701	attgcaaacc	tctcacagct	cccactccta	ctgttggaat	tcacttcaaa	ctttactgag
59761	aaattaaatg	cagctcttgt	catcttttca	ccaccaattc	tacaaaactg	tctgcattgg
59821	tcctcttggt	ctgtcttcct	ttcatttggt	atcgaagacc	attcccgaca	gtctagtttc
59881	tctacttggt	actcagattt	catctttcct	gcactctctg	cttccatctc	attcttctcc
59941	cctcgattaa	attcccttta	gccacaaaca	tgctctatta	tctcccagcc	ccaatacatc
60001	tgcaaatgta	tgtaaataag	aatgacaaaa	tatgtacaga	tatacaattc	ctacctttcc
60061	taatgtcttc	tagccactat	tatgtgtttc	tattcttctc	taataaattt	tcttaactga
60121	atattttttc	cttctacctc	agtgtctgtt	tctttctttt	cagccatttt	tggtttctct
60181	tgtaaattgt	tatgatcccc	agggtctgag	cttcttggtc	tatactctct	tgtaggtctg
60241	cctcccagta	tgctagtgtg	acccaaatat	gtcttcagcc	tcactctctc	tccagggttc
60301	taaacttgca	taaccagctg	ccttcttgat	catttagtaa	gcctctcctg	ttggtgacat
60361	aatgcttgat	ttctctccct	catggcatca	ctgtccaccc	gttgacacac	tcagaatttc
60421	agaatcagcc	ttaattctta	gttttttctc	actcttctct	catgtctaat	ccagtagccc
60481	tatctccact	gttttcacct	tggttccaagc	aatcatctct	tgcttaacac	aacctagttt
60541	tcaactagtc	ttcctccctg	cattcactct	tggcccaagc	aatcatctct	tgcttaacta
60601	tgggttgctta	acacaatcat	agtttcaact	agtcttctct	cctgcattca	ttcttggcgc
60661	accgtaatcc	attcttcaact	agagtgtata	ttagaggtac	tataatatat	actgctctag
60721	agttatatgt	tctagaattt	actagctgag	tggccttgag	caatatactt	aacacttatg
60781	ccacaatgtg	ctcgtctata	aaatgggagt	gtatatattt	ctgttctctg	attgctataa
60841	aggaatacct	gagactgggt	agtttataaa	gaaaagaggt	ttaattggct	cacggttctg
60901	caggctctac	agaaagcatg	atactggcat	ctgctcacct	tctggggagg	cctcaggaaa
60961	cttacagtca	tggcagaagg	caaagcagga	gcaggtgcgt	cttacatggc	aggagcaagg
61021	ggtaggggga	ggtgctacac	acttgtaaac	aatcagatct	tttgagaact	cactcatcaa
61081	aaggacagca	tcaagaggat	ggtgctaaac	cattcatgaa	agatccaccc	ccatgatcta
61141	gtcacctcca	accaggcccc	acctccaaca	ttggggatta	caatttgaca	tgagattggg
61201	tggggacaca	gattcaaacc	atatcagaag	ttaattgtta	gtaaaaatata	aatcagatta
61261	tgtcacacat	acctgttttt	gaaacttttag	attctcattg	ctcttagaat	aaaattaaaa
61321	ctctacttac	cgtggctttc	aggatccttc	ataacctggc	atattgccta	atttttctga
61381	tacccatctt	gtttctactc	tcccttgcgt	taccatatag	ccacagtcac	tatctttaac
61441	tttctagttg	gaaacatggc	tttttgtggg	gtgtatttcc	ttttactttc	tattgttttg
61501	ggaccaactt	atttacgtca	gttttgtggt	tgttttggtt	tatgtaaaaa	tagtgcctta
61561	aaaaatcagt	tttttttttt	aacctgggtg	atcatttggt	ttacttttat	aaatgctggg
61621	acgagaggcc	tactcctttt	ttccaatttt	gtgagagatt	ggtaaaattc	ttagaagtgg
61681	aattgctagg	tcaaaaagata	gaaatgtttt	cagatgggat	attcctattg	aagtaaattt
61741	tttgagaact	taacatgtcc	aaaaagggtt	tcatttgccc	tcagtcttga	ctggtagttt
61801	gcctggatgt	aaaattccag	attcacagtc	atttttgccc	agacagtga	aacattattc
61861	tactatcttt	taaaaaataa	cagtttttatt	gaggcataat	tcatatacca	tactatgtgc
61921	aaatttagtg	tttttaatat	attcatagag	ttgtatagcc	atcacccag	tacattgtag
61981	aatattttta	tactcaaaaa	atgaaacccc	tggattttatt	agcagtcatt	ctctgttccc
62041	accaatttgc	ccacccccca	gccttaagtc	aacaagtaat	ctactttccg	tcttcattgt
62101	cttttaatgt	tgctgatgaa	aagtctgatg	ccaaattaat	tctagttata	ggaagctttt

FIGURE 1Q

62161	agagttttcc	gttttgaatt	tctggaattt	aattatgtaa	actaggattt	atgtagatat
62221	gagtcctttt	attcatccgc	cttagcctca	ctgagccctt	ttactcagac	cattgggtgt
62281	tttaactcca	aataattttt	gcataatctt	tatttattct	attttcttca	tttagaactc
62341	ttactaaatg	tattttgaac	ttcccaaaca	tattctttat	atctcttcaa	ctttttactt
62401	gtatcaccca	ttcttttctt	tcttgctctc	tcttttttaa	cctctctaac	ttctgggaca
62461	tttctttgtg	ttacatatca	ctactatgat	ctttatcaat	actacttctg	ttatttacc
62521	cttctcctca	agtgttttct	tagtaataat	atttcagttt	tctccttgcc	catttattct
62581	gtttgttcat	tgtgatcttt	ttctttcctc	ccattggata	ttcatagtgt	cttgtgattc
62641	ttgtttattg	aataaggact	aaattgacaa	aaactttgca	gttacatagg	tctaggattc
62701	ttttctaaat	gggaaatgac	tacaagtgtc	atgtattcat	tgactggctt	tcctccagg
62761	tgacaggatt	ttaagaggca	ggcttaaggc	cacccagtt	accaaagtaa	ggacagcttt
62821	actatgttta	ttcctggaag	gagctagctt	acttacttag	tatcctcctc	cttcagtatc
62881	ttccctcttt	cctctctgcc	ctccactttt	tcctttctac	ttcaagtata	tagtaaagt
62941	tagggaataa	tataataact	atgtacctat	tactcagttt	tgttgaattg	tcttatatat
63001	gcttcagatt	tttataaaca	aaaaaattat	agacacagat	atagcacctt	acagtcctac
63061	tttgatactt	ttctctgccc	tttctgcctt	ttcagaagta	accattatcc	tgaatttact
63121	gtttatcatg	cccattgcac	tttcagatac	ttttgctgtg	gggtgagatc	cacaaacaat
63181	ctagaacgtt	gattgcatgt	ttttgtgaac	cctgaaagaa	ccaacccttt	aaggcagatt
63241	ctgagtggct	aacagtccaa	attcaaaata	gacccacgcg	atcctttgca	gacatgtaga
63301	gatcatatgt	gtactccgca	ttcctggaaa	acctatacac	ccagtaactt	taggactttc
63361	atagctgtct	gttcctattt	atgccacctg	aattaacagc	taccagaaaa	taccatttgg
63421	ccttttgtac	ctaacaatac	ctctgtgacc	tgccctcagc	aatcagaact	gaacaagttt
63481	gcacccctca	tttgtatagt	ggaccagagt	gggaacctga	ctgtgacact	tctctgtaaa
63541	tgacaacccc	ttttctttgt	tctctcagaa	ggcgccctta	ttttctacca	aggtacatct
63601	ccacggtttg	caaactgttt	gctggaataa	agcctgtttc	ttttttaaga	aagaaaatct
63661	ttttctgtag	attgttgaca	ttttaaaagt	tgtatatatc	ctgaaacttg	ctttttcatc
63721	aatattatgt	ttttgagatg	tattcatggt	gataaatata	gcgctagctt	tttgttttga
63781	cttaatatgt	ggtattttgt	tatacagatg	taccagtttg	ccattttttc	tctcttaggg
63841	aacatttgag	ttggttctag	ttttttgcta	ttataaacat	tgctgcagtg	aaaatgtcct
63901	gtacatatgt	gaatataagt	agctacatga	taggatatgc	tcatccttag	ctttactcta
63961	gatattgcca	gtttactttc	aaatatattt	attataccac	atgtagaata	tgatagtgtt
64021	tgttgctaca	tgtacatgat	taccaactct	tgtattatta	ggcccaattt	ttttgcagtc
64081	tcactgattt	ttcatatgta	tgtatgtatt	ttttgagaca	aggtcttgct	ctgttgccca
64141	gggtgggagt	caataatgca	ttcctgtcct	attgtagcct	caaactctct	ggctcaggca
64201	atctctccac	ctcagcctct	cagcctctgt	tagctgggag	tacacagata	tggtacggca
64261	tccaactaat	tttctttttt	tttctttttt	tttttttttc	tagagatggg	gtcttgctat
64321	gttgacacag	tgctgggatt	acagggatga	gccattgtac	caggcctggg	ttttcattgc
64381	atttctttga	ttactaatga	ggtcatttat	tttatgtgtt	tattagatat	tcgaattccc
64441	tatagtgaac	tacctattca	taagtctttt	gcccattttc	ttttggatta	gttgaccttt
64501	tccaaaagga	tgccacttta	ccttggaatt	atttattata	tagtccRttc	tagtccccac
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64621	tgagccctct	attctgtctc	tttgggcctt	ctgtctctat	gctagtatca	tttctctgta
64681	agtcttggtt	tcctggtaac	accagtctta	ccctccttat	tattcaaaat	agccaaaggc
64741	tactattata	cagtgtctcc	ataaaaaatt	tagaatcagg	ctgggagcag	tggtttacgc
64801	ctgtaatccc	agcacttttg	gaggtctgaag	cggacggatc	acgaggtcaa	gagatcaaga
64861	ccatcctggc	caatatgggt	aaatcctgtc	tctactaaaa	atacagataa	ttagctgggc
64921	atgggtggtg	gcacctgtag	tcccagctac	ttgggaggct	gagggaggag	aatcacttga
64981	acccaggagg	cggagggtgc	agtgaagcca	gatcatgcta	ctgcaactcg	gcctgggtgac
65041	aaagtgaagc	tccatctcaa	aaaaaaaaaa	aaaaaaaaat	ttacaatcag	tttttcaagt
65101	tccatggggg	aaaaattatt	tttgggaattt	tgtttattgc	actacactga	atttatttgt
65161	ggaaaattga	catcattata	atattgaatc	ttcccataaa	aggatattta	tgtaggtcct
65221	tgtcaagtga	aggggaacac	atctgcatgc	acacatacat	gtcatttggt	gtaatgtgaa
65281	ataaggttta	gtggagaaaa	ataaagaagt	attaaggcac	acacaattcc	ctaaggctct
65341	ttatcccat	atagatgtgt	gcaactggcca	gacacatcta	gaactatgta	ctgtggaaag
65401	ggctcctgtg	taataattgg	agctttgagg	ttgggtgaaat	ggctcttact	gggaaagcca
65461	tcagtactct	gtggctgata	agccttttct	tgcatgaaac	aaactcagac	ctcctgagcc
65521	aactttttga	taagctacca	aaacaggggg	ggaaacctct	agagtcatct	gactctgtct
65581	ctctttctag	tagccttttg	tgcacctgca	cattattttg	ttgtttccgt	cacaaaagtt
65641	ttgggaatct	tttggttagac	ttttcttcta	gattctttat	aatgttacta	tcatgagaag
65701	catctttttt	taattggctc	tggctaattgt	gttagaacac	catgtaattt	tatgtccttg
65761	attttatatc	caacaaacct	tgctaaactc	ttctgttagt	ttttatagtt	aatagggtatt

FIGURE 1R



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65821 agccctgatg gttttagat tctcttgggt tttctgtag atagcatgtt tcctacaaat
65881 aagttttttg tctctataat tctaattctt atgcctcttt atataaatat atattttatat
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FIGURE 1S

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FIGURE 1T

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FIGURE 1U

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79621 tggcaccctt gtcgaaaacc atttgactat atatgcaaga gtttatttct gggcctttcta
79681 ttccatttgt ctatatgtct gtctttatgc tgtcatcata ctgttttgat tacactagct
79741 ttgtgtagta agttttgaaa tcaggaaatg tgagttctcc aactttgttc tttttcaaaa
79801 ttgttttggc tattcaggat cccttgagat tccttttttt tttttgagat ggagtctcac
79861 ttttccacc aggctggagt gcagtggtgt gatcttggt cactgcagcc cactcccag
79921 tttcaagtga ttctcgtgcc tcagcctcct gagttagctg gattacaggc acctgccacc
79981 atgcctacct tttgtatttt tagtggagac ggagtttcac catgttgacc aggccaatct
80041 cgaactcctg acctcaagt atccacctgc cttggcttcc caaagtgggt ggattacagg
80101 tgcaagccac tgtgctcagc ctocatgtga attttataaa ggatgtttct ctttctacaa
80161 gtaggtcatc aggattttga tagggatttg attgaatctg tagattgctt tgggttaatac
80221 tgatatctta agaattctta actctgaaat atgagtggac agttaagaat aaccagatat
80281 ttaaagaaa agctcaacag gaaagacagc agcagaaatg gtcaacagaa acctcagaaac
80341 agtgcagaaa acagaataaa acttaaaaaa aactataatt agcatcagag ataagatctR
80401 ttagtcctgt cttgctttgt agcaatacta aagaagcaaa agtaacagag aacaagaaag

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FIGURE 1V

80461	acctcttggga	aattaaaaaat	acaatagcca	gaaatattatt	tttatttttta	tttttttttta
80521	attttctttt	taattctcag	caaggcaagt	tacgtctata	gaagggtgcg	cccttacaga
80581	tggagcaatg	gtgagcgcac	acttgacaa	gggaggggaa	ggggttctta	tcccatatgc
80641	atgtggctct	tgctgctgtg	tcattcccc	gttggttagg	gttagactgc	acaggctaaa
80701	ctaattccga	ttaataacta	gaatttttta	atttttatta	ttatttttct	ttttttgaga
80761	tggagtcttg	ctctgtcacc	caggcgggag	tgcagtgggtg	cgatctcggc	tcacttcaag
80821	ctccacctcc	cgggttcacg	ccattctcct	gcctcagcct	cccagtagtc	tgggactaca
80881	ggcgcccgcc	accacgccc	tctaattttg	tttttgtatt	tttagtagag	actgggtttc
80941	accgtgttag	ccaagatgg	ctcgatctcc	tgacctcggtg	atccgcccgc	ctcagcctcc
81001	caaagtgcgtg	ggattatagg	catgagccac	tgtgcccagc	ccagaaattt	ttaaaaatat
81061	atgtatatatac	agacatatag	gtatgtacat	gtgtatatata	gtatgtgttg	tatatatata
81121	aataaatggt	gaaaaataaa	tattggaaga	taaatgttct	agaaagcaga	gtaaaagcag
81181	agagatggga	aatttttagag	gaaacatgag	aaaaattaag	gaataaatcc	caatccataa
81241	aaattataaaa	tgcgtttaac	tgcaagaaac	agaacccttc	aagaataagt	ttctggaaca
81301	aatagggatt	ttcatttcct	ttcacatagc	aagaagcgta	gaggtaaatt	attgtaagac
81361	tagttctaca	caggtcagtt	gtcagatact	tgggtgaatc	gctatagtc	ctttagcttt
81421	tctgtcaaga	ccacagcaga	tttttaagat	ctttccctca	tacaactcct	caaagcagaa
81481	agcagagaac	agagaagttc	tcttgatatac	taagctcttg	ctaggaagaa	aatctttctc
81541	aaaaatcctc	tataactcct	ccttttatata	ctcattgact	agaatgaggt	cacatatcac
81601	ccctataacta	gtgactatgc	ttacattttcc	tgaagtaaga	gtctaataag	tcaaaaattt
81661	ccagtgttca	gtttttcttc	agattagttt	gtatgctgtc	aagtagaagt	tgtgctatga
81721	ttatttttatt	ctataacatt	tcaacagaaa	ccccttttaa	gtttctatag	gaagataaat
81781	cttcaactac	ttattcttgc	ttcttctctt	cattgtagca	aaacagagaa	attggttaca
81841	ccaccatcag	aaatcctcct	gattttcttt	ttcccacgta	ctaattttatt	taaaagccat
81901	cttttcagtt	ctagatgttc	tcctactggc	agataacagt	taacattcta	ttgattccct
81961	tgatgataac	tacagtgaac	tatgagatac	agtactctaa	agaatttcaa	atttgtcttc
82021	tcagttgatc	tttggttccc	ttttttctac	catcatccaa	aggaagaaaa	gataaattta
82081	ctctgaaaag	ttgttcccca	gagtttcttc	atttcctctc	agtgtttcca	tattcattta
82141	tccaacaaat	tattggaatg	ccttctatgt	gtaagatata	atgcttagatg	cttttctagt
82201	agtagattct	tctttctgta	cttgatttat	tggagcccag	agatgaaggg	atactgtctc
82261	tgtaatcacc	ctacagctga	gtcctaacta	cttcagaatt	tatggttgaa	tcctacagtc
82321	ccctgtagac	tgatgaagac	agtaacagct	cctgacattt	actgagtatt	tactatgtat
82381	caggtactaa	tcatatatta	gttcatttta	tcttcagcct	accctttgag	ttacacttaa
82441	ctattctcat	tttcatttta	taaaatgaagc	aattcaggca	cagagggatt	caataaatag
82501	gccaaggtta	cacaacttgt	aattggtagc	caagggttga	atcccagaca	ttctgaattt
82561	acagcccatg	cgtttaatca	ccgtatcatt	cttacacttg	gcagcctttc	tgatttttag
82621	tctatataga	acctagaata	atacagaggc	attgtgtcaa	acccttcaat	gaaattaata
82681	ctggaagctg	gatgcttcct	gtggaatgca	gaacagtcca	ttatatatca	tttatgggca
82741	gtttgtaaga	tttcattgta	tcttggtgaga	gtaagaataa	ttagactaaa	tttaattaac
82801	taaatgataa	aaaataaaat	ttttattctg	ctgctttttc	tcattactaa	gaaattaaat
82861	agatcccttag	atttttttcc	ccttctgtttt	aattgagaaa	taattcacat	actatacgat
82921	taacttttta	aaactgtgta	attcagtggt	ttttactata	ttcaccacta	tcttattcca
82981	aaacattttt	atcactcccc	aaaagaaacc	ccttatgcat	tagtagtcat	tccttgacgc
83041	ccctgacaac	cactgatcta	ctttttgcct	ttatggattt	gctgggtgaa	atatttcata
83101	taaatagaat	tatattatgt	ggccttttgt	gactggctgc	ttttacttaa	tgtaatgttt
83161	ccaaagtttg	tttatgtatg	agtatgtatc	agtacttcat	ttcttgttat	ggctgaatat
83221	ttcatcatac	acatatatca	tgttttgttt	atccattcat	caactgatga	acatttgggc
83281	tacttatatg	tttttgccat	tatgaataat	gccaccatga	acattcacgt	gcaagttttt
83341	gtgtagatat	attttcattt	ttcctggctg	tatgcctagg	aatagaattg	ctgggtcttg
83401	tggtaactct	gttttacact	ttgaggaact	aactgccaga	cagtttttca	aagttgctgc
83461	actattttgt	attcctaaca	gcaatgtatg	agggttacag	tttctctcca	tcctcatcaa
83521	cccttgttat	tatctatttg	tttttttaat	taaagccatc	ttagtaggtg	tgaattggta
83581	tttcatattg	ttttgatttg	cagtttccta	atgactaata	atatagaaca	tcttttcatg
83641	ttcttggttag	ccatttggtat	atcttctttg	gagaaatgtc	tattcaaatc	ctttgccac
83701	ttaaaaaaac	tgggtttgtc	cttttattac	tgagttgtaa	gagttcttta	ggccaggcat
83761	ggtggctcac	acctgtaatc	ccagcacttt	gggaggtgta	ggtggatgga	tcacttgagt
83821	ccaggagttc	gagatcagcc	taggcaacat	ggcgaaaccc	cgtctctaca	aaaaatacaa
83881	aaattatcca	ggcgtgggtg	tgcagtcctg	tagtcccacc	tgcccgggag	gctgagatgg
83941	gaggatcgct	tgagcctggg	aggcggaagt	tgcagtgagc	caagatggca	gagtcacca
84001	ggctggaatg	caggggcacc	atctcgactg	actgcaacct	ctacctcta	ggctcaagcc
84061	atcctccac	ctcagcctcc	cgggcagctg	ggactacagg	catgcgtcac	tgtgcctgga

FIGURE 1W

84121	taattttt	gt	at	tttttt	gt	ga	ga	tg	gg	gg	ga	tt	tg	cc	ag	gc	gt	gg	tc	gc	aa	ac
84181	ac	ct	gg	ac	tc	aag	ca	at	cct	ccc	gc	cct	tg	cct	cc	caa	ag	tg	ct	gg	ga	tt
84241	gcc	acc	gc	ac	ct	gg	cc	ag	ga	gt	t	ct	tt	t	a	t	at	ct	ag	at	cc	a
84301	at	at	tt	t	ct	c	cc	at	t	ct	gt	g	gt	at	tt	t	ct	c	tt	t	c	t
84361	aaa	ag	t	tt	a	at	gt	g	ga	tg	a	at	t	cc	a	at	t	at	t	tt	t	a
84421	at	t	cc	a	at	t	at	t	tt	t	c	tg	g	gt	g	t	g	t	at	c	a	t
84481	at	t	gc	c	t	a	at	gc	tc	ag	ga	t	g	at	g	at	t	t	c	a	a	a
84541	t	at	tag	t	at	at	ag	cc	a	a	a	a	a	a	a	a	a	g	c	t	g	c
84601	g	ag	ca	a	ag	tc	tag	t	a	t	a	a	a	a	a	a	a	g	t	a	a	a
84661	t	ac	ag	gc	tt	c	tg	c	ct	t	a	a	g	g	t	a	g	g	t	a	a	a
84721	a	ag	a	ag	gt	gc	ct	ac	ac	g	g	g	g	g	g	g	g	g	g	g	g	g
84781	t	gc	ct	t	ct	t	ct	c	ag	gc	ag	t	g	g	t	g	g	t	g	g	t	g
84841	ct	g	a	a	a	a	ct	c	ag	t	ct	t	a	c	t	t	t	g	g	t	t	t
84901	t	c	ct	g	ac	gg	tg	ag	ag	t	tc	a	c	t	c	ag	g	at	t	c	a	a
84961	t	g	tag	g	ga	at	gt	ct	g	g	t	g	a	a	g	g	a	g	a	t	a	a
85021	t	at	ct	t	tt	t	t	t	t	g	a	a	a	c	at	a	a	a	a	a	a	a
85081	g	at	ct	c	g	gc	ct	tg	c	ag	cc	t	ct	a	cc	t	c	ct	c	ct	c	c
85141	ct	g	g	g	t	t	g	g	t	t	g	g	t	g	g	t	g	g	t	g	g	t
85201	ag	ag	at	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
85261	gc	ct	gc	c	ct	t	g	c	c	c	c	a	a	a	a	a	a	a	a	a	a	a
85321	a	at	t	g	c	a	t	t	g	c	a	t	t	t	t	t	t	t	t	t	t	t
85381	aa	ct	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	
85441	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	
85501	g	g	c	c	t	c	g	a	t	c	c	c	c	c	c	c	c	c	c	c	c	c
85561	ac	at	gc	c	ct	g	c	t	a	t	t	c	g	a	t	t	c	g	a	t	t	c
85621	at	t	ct	t	ct	gt	g	t	g	t	g	a	t	a	t	a	t	a	t	a	t	a
85681	ct	g	c	a	t	t	g	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
85741	g	g	t	t	t	t	at	t	t	t	t	t	t	t	t	t	t	t	t	t	t	
85801	g	t	g	t	g	a	at	t	t	t	t	t	t	t	t	t	t	t	t	t	t	
85861	t	t	c	t	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
85921	cc	ag	ccc	c	ct	g	ac	a	c	c	c	c	c	c	c	c	c	c	c	c	c	
85981	t	t	c	t	a	t	t	c	t	g	t	t	c	t	t	a	t	t	a	t	t	a
86041	tag	t	t	t	t	t	a	g	t	t	t	t	t	t	t	t	t	t	t	t	t	
86101	t	a	a	ag	at	t	t	t	g	a	a	t	t	t	t	t	t	t	t	t	t	
86161	t	t	g	c	ag	t	t	t	c	a	a	a	a	a	a	a	a	a	a	a	a	
86221	ca	act	t	g	g	g	a	gc	g	t	t	g	t	c	a	t	t	a	a	t	a	
86281	t	g	ag	at	g	g	a	gt	c	t	t	g	c	t	c	t	c	t	c	t	c	
86341	t	g	ca	ac	c	ct	c	c	c	c	ag	g	t	t	a	c	a	a	t	a	a	
86401	ct	at	g	t	g	g	t	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
86461	a	a	at	t	t	t	t	g	a	g	a	a	a	a	a	a	a	a	a	a	a	
86521	ag	g	a	g	a	t	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
86581	t	t	t	t	t	g	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
86641	t	g	a	g	a	a	g	t	g	t	g	t	a	a	a	a	a	a	a	a	a	
86701	g	t	t	g	t	g	t	g	t	g	t	g	t	g	t	g	t	g	t	g	t	
86761	ac	ag	ag	g	a	a	a	g	a	a	a	a	a	a	a	a	a	a	a	a	a	
86821	cc	ta	a	a	c	ac	ca	at	a	t	t	ag	c	a	c	t	g	a	a	g	t	g
86881	ag	a	at	t	t	t	g	t	a	a	a	g	a	a	a	a	a	a	a	a	a	
86941	t	g	g	at	t	t	g	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87001	cc	ag	a	a	a	g	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87061	ag	c	a	t	g	a	t	t	t	c	ag	t	a	a	a	a	a	a	a	a	a	
87121	a	a	g	a	a	c	t	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87181	a	a	a	a	a	t	a	g	a	a	a	a	a	a	a	a	a	a	a	a	a	
87241	t	a	a	a	a	t	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87301	t	g	ag	cc	g	ca	a	g	t	a	t	g	t	g	a	a	a	a	a	a	a	
87361	at	t	a	a	t	g	t	t	g	t	t	g	t	t	g	t	t	g	t	t	g	
87421	g	t	at	g	t	g	t	g	c	c	c	ag	g	g	g	g	g	g	g	g	g	
87481	ct	t	t	t	t	g	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87541	t	ag	ag	g	t	g	ag	a	a	a	a	a	a	a	a	a	a	a	a	a	a	
87601	t	g	a	a	t	g	c	a	g	g	g	c	a	g	t	a	a	a	a	a	a	
87661	g	g	at	ag	g	g	a	c	a	a	a	a	a	a	a	a	a	a	a	a	a	
87721	ag	at	g	t	g	g	t	g	t	a	a	a	a	a	a	a	a	a	a	a	a	

FIGURE 1X

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87781 taaagctaac attttggttaa ggaaatatgt ttggaaaatt gttctKttca ttacttttcc
87841 taaggtttat tttgtctagt aactgtactt gctcaggtga cagtaaataa gaatatTTta
87901 tccatgcagg aggaaccttt gtgtccaga ctgcatttat gtgatcttca aagagtagga
87961 attgtgtttg tcttatgtgt ggttgtagtc tgagccctaa cagtGCCaag cacatgtatc
88021 agtatatatt tactgagtga ttgaaggctc aataaataaa tttatttgag agaagtatgc
88081 ttaagtaatt aggccttggg actgaaagct aaaccaaatt gtagctcaga aaatttggaa
88141 tctatctgtt tataatgccc tcatctacta tgaaacaggg tctgggtagg gcaactagca
88201 ggctgtaaac aaagaagacc ttttgatgaa gtttaaactc ctccctcagt agctcttgtt
88261 actattcccc gccccctta tttgttcgaa agtatgtggg aagatgcagc atagcagggt
88321 cctgtggccc ttattgaaat gaaatttctc tttcattctc ctctacattt tataattctc
88381 ccttccctccc ttacattcag acttgatagc atggcgata tactctctac aatctattcc
88441 ctttcacctt ttcagcctta ttgtttcttt acctattttt catttaaatt tctttctttc
88501 ctttttaaga aaacagggat gctgctaaag cttcatttaa atttcacaaa catatattga
88561 tcttttgcta tgtcccaggg attgtatgac attgagctat acctatctat agtttttcat
88621 gtgtcttaaa ctttctcgcc tttgttacag aaaaaacaaa ctctttgtta cagaattttt
88681 cccatataga ggattccttc ctccctactt tcttcattcca tctaaatgcc aacctttcaa
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88921 gcatctattt gagatggtag gtgaaatag tagagcatgg tgtgagttag gggattacca
88981 attgcaaaaa gaactatgga cttgtatat ccaattcggt caatgtcatt ctgttctttt
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89101 gaagatactc tgatggatag tagccccata atttcttggc tgtagggtat aagccacatt
89161 tcaaaataca attctgtttt ttttttttct tttttcacia ggcttacagc tttgcatact
89221 agttccaatc tctaagcagc attaggtggg gaaagaagtc atcaaacagc catactgaga
89281 agagtaaagt attttaactg ataactattc cagaaagaat gtggcagtta cacatcttct
89341 aaaccttatt aaggaggttt tggtaactaa agtgagatct ggtactgtgt cctaaatttt
89401 ggggtttttt tggacaaatc cttaatacct catgtccttt tcaactctt tctctgttga
89461 gagagagaga gaacgaatgg aattcatatg cctacaactt ttccgggaca aaataattct
89521 tttaatggga ggaacacttt tccttgatac agtggttttat cttacgttag acatgatttg
89581 gaaggtaaatt ataagtggac cagaaaattg gaaatactgt gcttttttat tattcatgga
89641 ccatctagat atcacatatg tataggtcaa atttatcagg tgtaatatag ttagtgtgtc
89701 aataacaaag aatttatcaa tttaaaggtg aaagtattca tttatagat ttctggcact
89761 tattttgtaa tttgaaactt aaaacctctt caactgggtg aaagattata atcaaaggct
89821 aaaattttat attctctttt gttaatgtca ggacaaagtc cggattgaat ataagtctgc
89881 tttattttat aggcctatga agaatacacc agcaagctag atgcactcca acaaagagaa
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90001 atggataaccg ttacatcttc ttccctcttct agccttttcag tgctaccttc atctctttca
90061 gtttttcaaa atcccacaga tgtggcagg agcaaccca agtcaccaca aaaacattc
90121 gtttagagtct tcctgcccac caaacagagg acagtggtga gtcagtttta atatcaccat
90181 tttgctgttt ctttgtattt ttcagacaga tcagttgttg aaaattaata tattattact
90241 tcatactcag aggtcatgca aatagaggca tccatgtcat acaggaaatga aaaatatgta
90301 attatttggg ggcaaagtct atattcctta actgaaataa atggtattgt ctctagtgtt
90361 ggatttgaca tttaaacctg tctgccaac ttgaaccaca gtcattgtct agcactagtt
90421 taaaataaat caggatttta agacttgagc ttgttcatta tctaatgtgt gtcaggtaag
90481 actcattctt cacccttgag aaatctcctt tctgagttat attatcagat gttgaacgtt
90541 cagtgtgatt gatatgtttc ccctcatcta cttcattttt ggttgttgaa tattagtatt
90601 aaccattgga acagcgtacc ctgtaagtaa catttgaagc atttaaagag aaatctgtgg
90661 aattattgtg ggtggtctat aatccttaag tgcaacgaat attgttagta gacttaataa
90721 gtaacccatc tgtatacatc actacttttt aaatgtctgt ggttactttt gacaataaaa
90781 attccaaata caactgaagt caaaaattttt catttttttt cctgacaaac agaaatcaaa
90841 agtgcaattg gtcattgttt aatgtttccaa aaattccttt ctgaactgaa aaaaaaatgt
90901 tattatagag gcattttact ttcagaagtt aagaattcct gcatatgagt ttagaaaact
90961 aatggagtta cgagttacca gcctgtaagt ttttatctta ggaaatatgg ctttctaaag
91021 gcatcattta ttgtcaggga ataaaaagta ataaaaataaa aagtcatact ttttctgccc
91081 tttttccatg tacagacaaa agttgggttg aaaaaataga ctctaatttt tcattgtaca
91141 gaattacaaa tcaatttgta aaacaaatcc agttctacc tttctcttta tttctgtggg
91201 tagaataaaa ttaaaattat ttttcccaca ttaagatggg gaattactaa gcatatcttt
91261 ccagggatgc ccacttaaa aggggaatat caacatatga attatctgta aatagataat
91321 cttcgaagca gcctaacaaa actggcaaac atcccatccc cagtagatct taaattaatt
91381 ctttattgtc tgtattcatg agcagaaagt aggaaatgtg ttcttcagtc ccaggcgttt

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FIGURE 1Y



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91561 gattaagttt aactagcctc cggccgggca cagtggctcg tgccgttaat cccgacactt
91621 tggaaggctg aggcgggcag atcacgaggt caggaggtca ggagatcgag acagtcctgg
91681 ctaacacacg gtgaaacctt ggctctacta aaaatacaaa aagattagcg gggcgtgggtg
91741 gtgggtgcct gtagtcccag ctaatttggg ggctgaggca ggatagtgcg gtgaacccgg
91801 gaggcggagc ttgcagttag ccgagatcgc gccactgcac tccagcctgg gcaacagagc
91861 gagactccat ctcaaaaaaa aaaaaaaaag gtttaactag cctcctcata tttatgagag
91921 aggccaagag aaatttacag gtatcactaa agcttataat ttccctttta aaaagaaata
91981 aaaacaactg agactcttca aagatgtaaa atgataaatg aataactatt aggcaattga
92041 ctaggcttac cttaattatc ctggctaggc ttagattaaa taagtaactt gttcttgtcc
92101 gtcatactcc cagttaaaca attcgtattc aatactcaga aaaactgtat atcgtgaact
92161 taaaaggcct tatgaatcat cagtaaattg gtttgtggta ttaaacctct tcaagaacgt
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92461 tctgtttgtc ctgaacactc aggaacaaag ggcagtagaa cctactagca gcaaataaaa
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94741 agtatttttg aaagtaaagc taagacata ctttttaaga tatgagataa agtgggcaaa
94801 tatgagaaaa aagataagag acatggagag agcaaaagtt ccaacttctg ttttaataaag
94861 aagcaacaaa aaatagaggg aagatgtatt cacagacata atacaggaaa attttcctgt
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94981 aacagagatt gacctggata cttgctgtat aattcgaaag ttgaaagaga accttttcag
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FIGURE 1Z

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95221 aataggtatc tagaaataga tcccagaatt tcagaaaatg taatatgaaa aaaatgggttc  
95281 aatcagtaag aagaaggtga attattttaat ttttgggtgct ggcatatgta gaagaaaata  
95341 aaattggggc cacatcttag actgcttaca aaagtaaatt ctatcagaat caagagatta  
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96661 ggccaacatg gtgaaacca catctctact ataaatacaa aattggccgg gtgtggtgcc  
96721 gcatgcctgt aaccagcta tttgggaggc tgaggcagga gaatcgcttg aacctgggag  
96781 gtggagggtt cggtgagccg agattgcgcc gttgcaactc agccgggggca acaagagcaa  
96841 aactccatct caaaaaaaaaa taaataaata aaatttctagt gtccatcagt aaaatgttat  
96901 tggaacacaa caatgctaata ctgtttatat gttgtctgtg gctggtttca tgctttagca  
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98461 ttatctctag gaaaaagag tgaacatact gatactcatt tgaggatgta gcaagataac  
98521 actttaagta aaatttcagt atgtcaagtt agttacagca aattacatag gaaatgttta  
98581 aatgtcacat agaaattcaa atattttatt aaaaaactca gtgaataagg taaagctaga  
98641 ttaaaccag ccaaagaatg aattagttaa ctctggaaag tRaagaaaga gagttataga  
98701 aatatataaa gagaggttaa gcagtatgaa aaatggaatg agcattatat gcctcaaga

FIGURE 1AA

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98761 gttccaaaag gtaagaatag aaataaatga gtagagaaaa attcaaataa attaggggcta
98821 acattttacaa atgacataaaa tctaaYgatt tgggaagcac aatctctgag ttggacaaac
98881 aatttgaaatc caggatagac ataataaaac caaagaatat tgttttaaaa gcactcaggg
98941 aaaaaattat atagaaaata attaaaatta gactaggaaa atttgttatg gcagttgtag
99001 aaatcagaaa acaatagaat aatatactca gagtactgag aggtacctgt aaatctctca
99061 gctaagttaa gctataaaatt tgattagggtt gacttgggca aatgcacccat aaagtccttt
99121 ccagagaagg agttcacttt tcatagggttc tacttgaagg aattgtccaa gaaggtttac
99181 tgtataaagg aaattgaaca cagaaggaat gaaaagttaa aattaaacct aaaatttgca
99241 gaagaaaaca ctacagaaaa tttttgtgac ctggggtttg gcaaagattt cttaaatatg
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102361 gaaagtgatg ggtatgttca ttatcttgaa tgtgatgatg gttgcatggg tatatacgta

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FIGURE 1AB

102421	atctcaaaat	gtatcaaaat	gtgtactcta	aatcattgca	gtttattgta	tgtcagttgt
102481	acctagataa	atctgtttgt	ttgtttttta	atagccttta	agaaagctga	tagtactgtg
102541	gaaatattat	atgaaataga	ctttggggaga	aagaattatt	attaaaattt	ttttttcaac
102601	ttttatttta	gattcaggag	gtacatgcac	agctttgtta	tctgggtata	ttgcatgatg
102661	ctgaggtttg	atgtacaaat	gatcccatca	tccaagtact	gagcatagta	gccaatagtt
102721	tttcaacctt	tgccctcccc	gctctagtag	cctccggttt	ctgttattgc	tgtctttatg
102781	tccatgagta	cccaaagttt	agctcctact	tagaaatgag	aacatttgat	atttggtttt
102841	ctcttcctgt	gttaatttgc	ttaggataat	ggcttccagc	tgcattccagg	ttgctgcaaa
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103141	gtacaagcct	tcccttttct	ctgcagcttt	gccagcatct	gttgtttttt	gccagcactt
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103741	tgtcttaaaa	aaagactttc	tagatcctgg	agtatgtgca	ataactaaaa	agtaaatgca
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103861	atggagtgca	gtggtataat	cacagctaac	tgcagccttg	acttctcagg	ctcaggtgat
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104761	aaaaatttta	tttgatgggt	tattgagata	taattcaaaa	gccatacaat	ttaccctttt
104821	aaagtataaa	atgatttttg	tattatcaca	aagttctgtg	gccgtgataa	ttcatttaaa
104881	aatatttttt	catcccaaaa	ataaacactg	taccctgttag	cagtcacttc	ccattcctcc
104941	catccctatg	taaccaccca	tttgctccct	atctctatag	atttgcctat	tctctggcat
105001	ttcatataaa	tgaatcata	caatatgtgt	ttgtgactga	cttctttttac	ttagcataat
105061	gtttttcaaag	tccatccaca	ttgtaccctg	tgtcagtcct	tcatgccttc	ttatggctca
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105181	tctgtgtcgt	ttctactttt	tagctgttat	gagcaatgct	gctgtgaaca	ttcgtattca
105241	aggttttgtg	tggacatatg	atttcatttg	tgctcttagt	aaccttttaa	gagactggca
105301	gaatgttttt	caaaatggct	acaccatttt	actttccctt	gagcatgagg	gttctgtttt
105361	tttcacatca	ctgccaaact	tgttttattat	ttgtcttttt	tattatagcc	atcctaattg
105421	gtatgaaatg	gtatctcatt	ttgggtttta	tttgcatttc	ccttatgact	agtaatgtga
105481	agcatctttt	tgtgtgattg	ttggctttta	tatatctttg	tggagaaaag	atttgccttt
105541	atatagatag	ttttacatgc	aattcataga	taaataccaa	tgacctgaga	cgagaagaat
105601	tacaaagggt	tttgaacaat	gctctaataa	tagaaatcgg	acagaaaaga	gaaagtagcc
105661	aagattattt	cctctagaga	tgggaaaatg	tacaagttct	ccaaggatct	atgacacaac
105721	aagagaaaga	agtggagata	acaagaataa	aactgaatgc	tctagagaca	caaaagggaa
105781	atactgaaga	taggttaagct	ctcttcagta	tcttctttgt	ttttaagttt	attcctaggt
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105901	agactagata	agctatcttc	aaaataaggt	agactaagtc	aaaggattgt	aatatcaaga
105961	aatgtgatag	accctggatg	tgggtctttta	catcactaaa	tgaaaaccat	acttaataag
106021	ttgtatatag	tattgtaaag	ataattgcct	gttttaggta	tttcaaaatt	ggtgactttg

FIGURE 1AC

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106201 aaggcgggcg gatcacctga ggtcaggagt tcgagaccag cctggccaac atgatgaaat
106261 cctgtttcta ttaaaagtat aaaaattagc caggcattgt ggcgcacacc tgtaatccca
106321 gctactcggg aggctgaggc gggagaattg cttgaacctg ggaggcagag gttgcagtga
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106501 ttagtcacct acaatgaaca aatactaatt ttttgttata tttgcttcac attatacata
106561 gaagtacaaa ttaggttcc actaccagtc ccattcctct gctggacacc catcgtccca
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106921 tttaggttat atttggtatt ttttgttatg acaaacagtg ctgtaataag aacattcttg
106981 tgcttgtctc cttgtacaca tataacaagg tgtcacaaac ctgaaagtgg aattcctggg
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109621 aaaaatgtaa ttgatgtaat agtcccaaaa aagaacttgg cattaagtta aattataaaa
109681 tcagaaagct atgtaattta aatttgtatt caaaatctgt atattggcat gtatattctg

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FIGURE 1AD

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109861	ttgatgacca	cctaaattttt	agaacaactg	tttttttaaa	aaacttttta	ctatggaaac
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109981	taatatatat	gttatatata	atatatatgt	tatatattgt	atataaatta	tggtatatat
110041	aaattatata	cattatatata	aaagtataaa	ttatatgaat	tttatatata	tatatTTTTT
110101	gagatggagt	ctcactctgt	cacccaggct	ggagtgcagt	ggcacagtct	tggtcacta
110161	caacctccgc	ctcctaagtt	caagtgatcc	tcctgcctca	gcctccctag	tagccaggat
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110401	acatacataa	aagtagagta	gtatatgaat	cattgtgagc	tcattaacaa	aagataattt
110461	cagttcactt	taaaaattga	cgtgtgaaa	tttggactca	tacattttgt	tttggcttaa
110521	agtttccttg	gcaaatatcc	acatggttcc	attgactctg	gctccttttt	aagataggat
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110761	gtattttgcat	aaagaaatct	tgttttcacc	ctggcctaaa	tatacatcca	attttctctg
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110881	atgctgccgc	atgcatgtgc	atgtgtgtac	acgcagtgtat	ggattttcat	ggtttttaaa
110941	atatagacat	aagtacaaat	acattttatt	ccccactctt	catacataag	atacataata
111001	ctgtatatat	cattctgtat	tttgttttta	acgtttatgt	aggccattct	ggaaattttg
111061	tttcatacat	aattttttat	atatatacaa	ctacagttcc	attgtataga	tgtactatag
111121	tgtattttaac	cagtgatgtg	tgtatggtca	ttcaggttct	ttctagactt	ttgatataca
111181	gtcagtagctg	tagtgaataa	tggtgcacat	acattattct	tatgtattgc	aggcatatct
111241	gtgagataga	ttcccagaag	tatgcttgac	taggtcaaag	agaaatttgc	atttgtgact
111301	ttgatagata	caaatttcgc	ttcatggatc	ttgcttaatt	atgagatgct	tgtttatagc
111361	ttcataccag	tagaatatgt	tatcaatttt	tttttggttt	tttgccaatc	tgataaatga
111421	aaaataactt	cactagtttg	ggtttgcttt	cctctgagtg	agactgaaca	tgttttcata
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112201	tgatgaaata	tatatgcaac	ttaggatcag	catatgtaga	gaagcatgag	ggagcatagc
112261	catatttgaa	gtgcattact	ggagtgccta	agggaaatta	ccaaagaggc	tgaaggatag
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112621	catgccccaa	agttaagaat	accttcttaa	aagtaaaaaa	ttaaaaacaa	agataaaaaa
112681	gaaaaaaaga	atgccttctt	tagaaaagatt	tctatggtaa	cataggatag	gatacattgg
112741	atgtggttta	aaactaaaga	tcggtcacca	gtcaggaaat	tttggcatta	gtataggcgg
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113041	ggcttataaa	tgtgcttgca	ccaaactaaa	ttttttgtac	atctaattgt	tttaaatata
113101	atcctgataa	gcagattttt	agccactgag	agcctgccta	ctttgcagtc	cccacaaaa
113161	tgctttgtac	tcaacatcta	ttaggtataa	ataagatcaa	atcccaaggc	tataaagatt
113221	ccaagctgct	gttgcccttt	ggagctcttt	gatacataga	ctccctgctg	ggttgtctaa
113281	cattgtcagc	tagacatata	agctccctct	cctactcccc	tctccctga	gagtcacct
113341	gccctcctct	tctgggtgat	agccactcca	cctcagcttc	tgccagctcc	tgtttgggta

FIGURE 1AE



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116041	ggagttaaat	aattgtatat	gactgtaggg	tttgttactt	tgatcaaatg	attttatttg
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116161	tcttaacccc	ctcccatttt	taatacaaac	tcatagtttc	acaaaaggta	tatcaaaatt
116221	aacattttat	attgacctac	ttttctttca	gaaagtgtct	aacattgttc	caagaccctc
116281	acattttgaa	tcctctttta	aaaaaaaaaa	attatttttg	gggcatgttg	tccctgtccc
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116701	<i>agagagaaga</i>	<i>aaccaatttg</i>	<i>ttgggacact</i>	<i>gatattttcct</i>	<i>ggcttactgg</i>	<i>agaagaattg</i>
116761	<i>catgtggaag</i>	<i>tgttggagaa</i>	<i>tgttccactt</i>	<i>acaacacaca</i>	<i>actttgtatg</i>	<i>tatctttaca</i>
116821	tttttttttg	aaatgtcaaa	aatgttttaga	ttttaatgaa	tgaattttta	tttagggaat
116881	gtgaaatatg	gatgagtaat	tttggaaactg	acattttacc	tgagttgaaa	tcagttgttt
116941	tctttaaaaa	cttgtattta	aacaagagtt	taattttaat	ctttataact	tctttttaat
117001	ttaaaaaagt	aaaatgtatg	cattgttaaa	agataatttt	gaatagtgca	gaagtatgtc

FIGURE 1AF



117061	aagtaaaaaa	agtgaaaata	ccctcctaga	ggccaacatt	tgttttagatt	aacagattat
117121	tgttctgtct	tccaaacttt	tttctgtgta	cacaaacgtg	tgttgtacc	tgtaaagccta
117181	aagttttttc	ctttcttttt	ttctctcttt	ccttcattac	tttcttttct	ttcccttttc
117241	ttaaatcaaa	gtagagccat	gctatgtgat	attcttttgcc	ttattttttt	ttaatccaac
117301	aggatgtcac	ggacatcttt	tcatgtcagt	atacctggct	ttatttttagt	atgactatgt
117361	aataattcgt	aagaatagga	attcattata	tttaaccatt	tctctattga	tagacattta
117421	agttttttgta	ttataaaaaa	tctgtttacat	acagggctaa	acaaggctct	tctgcatata
117481	tcttgacaca	cttgtagaca	cccttgtggt	tctgaaggat	aggttaatgg	aaatagaatg
117541	gctggatatt	aaactctcca	tgaggccttt	ttctttgtct	ggtttttgca	tttgctagaa
117601	cctagcataa	gcctaagggt	caccagcata	aggcccggaa	tgtgggacct	ttccacctta
117661	gagatgagga	tctacataga	acttgagaac	ttatccccta	aaatggcagg	cagaagccaa
117721	aagttgtctc	tgaatcagga	atacatttct	tacttttctc	tatgtatgga	attttggcca
117781	gagttttttc	taggtggata	attactgcta	ccctttaggc	gtcaagtgtt	ttcccagtgt
117841	tcttggtgat	taatccagct	gggctcttaa	agcagatgat	tgattagatt	atttcctttg
117901	gggtttatgc	tttcaagcct	ccattagtag	tgaataatga	aatcatgttt	gtgtttctgt
117961	aaggcatttt	ttgggagaag	tgtaaagatac	acctaattgtc	aatcaaattt	tactgtgcag
118021	caataaattt	tttaacatgt	tgaatttttaa	gtggataaat	cttaacattt	ttatttaagt
118081	tcttaagaat	acaaatacag	ttgagcatac	atttcatagt	gattactact	ctgtttctta
118141	ataattcttc	ttagctagaa	attgaatatg	aggagataaa	agaaagacct	aagttgctaa
118201	gtgtgagaaa	atagtattaa	aatgatgcct	cagggaaggtc	cttgccacag	aaggattgtg
118261	aaagcaaact	gcagattgat	tccagagtat	ggaaattgtc	accactcagt	tggaacctg
118321	ccagtaaat	tttattgaga	actttccatt	tgccaatacc	atatcttacc	tagggatag
118381	acaaatgaat	aagacagtgt	cactgccata	gagtagagag	aagattttaat	aaattttcat
118441	aaacattcat	aattactata	tatgtataaa	gttctataga	tgacacagaga	ttcctaacct
118501	ggcttttgag	gagttaggaa	ggtttctcag	agacagaaat	atctaagctt	aggcctgatg
118561	gatgaggaag	taagtatcaa	gtaaagagta	ccctaaacag	agggaagagc	aagaaagcat
118621	gttacctttc	aaagttttga	aagaagttca	gaatggatga	tacaaggttg	aagagttagt
118681	tgttaacagt	attgtgggta	gaataagagt	tStgggtaga	ataagcagag	tccagctcat
118741	gaaaatcctt	gttagccata	ttaaagattt	ggatttttct	gtaaaataat	tagaaatgta
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118861	tgccatatag	aggcaagatc	aaaaacctat	gttctgctta	gaaaggaaaa	gtgttcttgg
118921	ctgtcttggg	ttttgcttgg	ctattcaagg	agggtgctt	atgcctcatg	gtttcatatt
118981	ataaaagcaa	tcccttcagt	attttctctat	atcccaagag	tccttgggaa	ctgggaagtg
119041	ggaaaacaa	atttgaaact	tttatatcca	aaccttctcc	ttttctgca	gacactcagt
119101	gtcttccttc	acacagcccc	acaccttaca	aattaatgca	tgcaaatatc	cttgactgtg
119161	cctctcacta	atttgccata	catatttatg	tatactcaga	tactagatta	agtgtaaagt
119221	gtgacccaaa	agaaagatat	atcttctctg	gctcatcttt	attgacaaa	gtatacttac
119281	agatacaggc	atatattgct	taaaatttat	gatcaaatgc	atatccacat	gttttctttc
119341	cttcagctgt	tttggtcacc	tacctacttg	gtttggtgaa	taatggccac	taaaaaaatt
119401	ttaaagattt	taaaatttct	tgtatatcca	gagacaaatg	gaaaaagaac	acaaatagaa
119461	atagacattt	acctgtttta	tatcccctag	aaagtgtatc	ataggaaaaa	aggtgaagaa
119521	aataagagtc	acttttaaaa	ctaaatgtcc	tcaaaaagcc	agaatgtatt	atatatcagg
119581	atgtaatttt	cttgaaatat	tttcaataac	tttctattct	taatggaaca	gaatgtgtaa
119641	ataaatgtgt	attgaaaatg	gacttttggc	tgggcacagt	ggctcatgcc	tctaatccct
119701	tgagaggccg	aggcaggcag	atcacttgag	cccaagagtt	caagaccagc	ctgggtaaca
119761	tgacaaaacc	tcatctctcc	aaaaaaatac	aaaaagttag	tgggcatggt	ggtgtgcacc
119821	aatagccttg	gctattcagc	ctgaggtggg	aggataactt	gagcctggga	ggcagacttt
119881	gcagttagtc	atgattgtgc	caccatactc	cagcctgggc	aacagagcaa	gaccctatca
119941	aaaaaaaaag	aaaagaaaaa	gaaaagtaga	cttttgatgt	tgaaatctat	ttaatgtatc
120001	ataaaaaaat	ttacatgtag	cagaatagat	taggaagttc	taattcatgt	tgtatatagt
120061	cagggttaagt	agtgttgat	gaatacagtt	atatatggag	tcataatgta	aaatatcatt
120121	atttgtgatt	aaaactctga	aaaactgggc	acagtggctc	acgcctgtaa	tcccagcact
120181	ttgggaggct	aaggtgggca	gctcacgagg	tcaggagttc	aagaccagcc	tggccagcct
120241	ggtaaaatcc	tgtctcattt	gaaaatcttg	tgagttgtaa	ctggttttat	acaaaatatt
120301	gaagagtggg	aattgtataa	ttacaatcat	gtaattaaaa	gtattaacca	cccccccaa
120361	aaaaaaaaacc	tgtctctact	aaaaatacaa	aaattagcca	ggtgtgatgg	tgtgcgccta
120421	tagtcctagc	tgctcgggag	gctgaggcag	gaaaatcgct	tgaatccagg	aggtggaggt
120481	tgtagttagc	cgagatcgct	ccactgcact	cggcctggg	tgacatggag	actctgtctc
120541	aaaaaaaaaaa	tctctgaaaa	actgaaatga	attaagaata	tagaggccga	gtgtgggtggc
120601	tcatgtctgt	aacactctgg	gaagacgagg	caggcggatc	acttgaggtc	aggagtgtga
120661	gaccagcctg	gccaacatgg	tgaactcca	tctccaccaa	aaaatacaaa	cgttagctag

FIGURE 1AG

120721	gcatgggtggt	gcatgcctgt	agtccccagc	tacttgggag	gctgaggcag	gagaatcact
120781	tgaaccagg	aggcagaggt	tgcagtgggc	cgagatcctg	ccactgtact	ccaacctggg
120841	cgacagagcg	agactccatc	tcaagaatac	agagcaaaga	acaaataatg	aaatagaagt
120901	cacccatgct	ctcgccactc	tgaagtagcc	actcacatct	tgatatttat	tcttatattt
120961	tcttattatt	atatacacta	aataaatata	ttttaagcaa	tttctggctt	tagtgggata
121021	gattcttcct	agtgcagttc	tgttacgtga	ctcatgttct	acatcatttg	cctttgacat
121081	ggaattctta	acatgttgcc	ttctaagttt	cacctagaga	agtgttcaca	aataagttta
121141	tgtggcccaa	acattcta	cctctaagaa	attgatcatt	tgttagaaaa	aatagatcct
121201	attgtctttt	aggtgatttt	tctgtttctt	atttttttta	gtaagattag	gaagagctgt
121261	ttcaattttc	atatgattac	ttactagttt	tataaataat	tgtttttaca	tttttatcca
121321	aagttaacca	ttatgttttt	ggaccataga	tcagggggtc	tgattctgtc	agctattttg
121381	tttttgtttt	tgtttttagct	attatgtaga	ttgtatttat	agtctctctc	cctccacccc
121441	ccaattccac	tctggaggaa	ttcactgtta	atttttaatg	gtttctgttt	taagctcttt
121501	tgggtgattat	tttcatctta	ctaaatacag	ttacacattg	cctgatgact	gggatatggt
121561	ctgagaaatg	catcaatggg	gattttgtta	tgtgcttaca	caagcctaca	tggtatagcc
121621	taactataca	actaggctat	atggtagagc	ctattgcttc	taagctaata	acctgcacgg
121681	aatgttactg	aactgaatgc	tgtaggtaac	cttaacacag	tggcaagttt	gtgtatctaa
121741	acgtagaaaa	ggtacagtaa	aaatacagta	taaaagatca	aaaatggctc	acctgtgtag
121801	gataccta	atgaacagag	cttttaggac	tggaaattgc	tctgggtgag	gagtgggtgag
121861	tgaatgtgaa	ggcgtaggac	attactat	gttactgtag	acttttatga	taaacattgt
121921	acacttaggc	tacagtacag	ttttaaaatt	tttcttttta	aaaagtttat	aaagtaaaaa
121981	attttacatta	aactaagggt	taattttttt	taactttttg	actcttgaaa	taacagtttc
122041	aaaagtttaa	aaacattata	tagctataca	aaaatatttt	atgtgcttat	tctataaaact
122101	tctattttta	aaatttttaa	tttttctttt	ttacttttta	aacttttctg	ttaaaaaatga
122161	agacacaagc	tgcacacggg	ggctcatggt	tgtaatccca	gcacttgagg	aggcctaggc
122221	agacgcatca	cctgaggtca	ggagttcaag	accagcctgg	tcaacatggg	gaaacccttc
122281	ctctaataaa	aaataggaaa	attagccagg	cctagtggca	tgtgcctgtg	gtcccagctg
122341	ctcgggaggc	tgaagcagga	gaatcacttg	aaccaggagg	tggagggttg	agtgcacgga
122401	gatcgtgcc	cagcactcca	gcctgggcga	cagagccaga	ctctgtctca	aaaaaaaaaa
122461	aaaaaaaaaa	aagacacaaa	catacacatt	agcctaggtc	tacacaaggt	caggatcttc
122521	aaggatcac	taggcaatag	gaattattca	actcctttat	aatcttatgg	gaccactgtg
122581	gtatgaagtc	catgattaac	tgaagtgtca	ttatgtgaca	catgactgca	attatctttt
122641	agccacaatt	tcttgcttta	ttacttttag	atatcatata	ctgattactg	attgtataag
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122761	tttttggttc	ttctattggg	tgcctttgta	actttaatat	atgcctttct	tgttccgtca
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122881	cctttcacct	ctgtttcctc	ctccttttca	tgtctacttt	tacttttatg	ttgtcaagct
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123001	agatagtggg	gtgggaaata	aatatgtgta	gtccatctat	tatcttgaac	ccccggtttt
123061	catcttataa	tagtacttta	gtatgtgagt	ttcatgatat	aaatatatta	cacttttggt
123121	atttttaaca	agagagtaga	tacgtcagtt	tctagaaaagt	tttcttgtag	gtttttgaaa
123181	tctctgtgat	tttttacttt	gcaggtagca	aaaacgtttt	tcaccttagc	attttgtgac
123241	ttttgtcgaa	agctgctttt	ccagggtttc	cgctgtcaaa	catgtgggta	taaatttcac
123301	cagcgttgta	gtacagaagt	tccactgatg	tgtgttaatt	atgaccaact	tgagtaagta
123361	atccaaaaat	atctcttttc	tacctaccat	tttacctta	aattttctta	atgtgaagct
123421	acgatgtcta	aaagtctgtg	agggtttttc	ttccatacga	ttggtataga	gaattttttt
123481	taagtgtagt	tagagaataa	tatgtggaat	ggacagtatt	tctctcccaa	attgtaatgc
123541	tggttcagct	atacagttaa	tttatatttt	atattatcgt	ttaattaatc	aagaccctta
123601	acccatagaa	accatttttg	gatagtttct	aggaggagag	ggagagttgt	ttcaattaaa
123661	ttaagcatta	tgatttttga	ccacagatca	ggtagtctga	ttctgttagc	tattttgtaa
123721	attacgttta	tattcttctc	ctctctcctt	catcccccatt	cagctccctt	cccccttttt
123781	atttgagtaa	gatgtaaaa	ttttgtatcc	agtatatatc	tctttctaaa	atttctcttt
123841	gctgtatgcc	agtttttcta	atagattaga	ctgagtctat	tatctctttt	tgtgtcattg
123901	gtgctgctgc	tgtaaagtc	ttacttttct	tgatcacctg	agcaataaaa	acttaactct
123961	gtactttaag	taaattataa	tgtcacctaa	tttacagtag	atacttttta	ttctcattct
124021	ttaaccataa	agcatgattt	tcattcttgta	gtatgtagaa	atttgcgtga	ctgaatgatt
124081	agttttaagt	tataagcatg	cccttgaaag	tgcaatacaa	ttttttttta	aataagcctt
124141	tagacaaaaa	tacaactaat	tgaattttta	cagttgtttc	tgagaatgga	atttgatctc
124201	agtttttttg	gttaactatg	tatttttggt	tatgaagctt	ctgggttttg	cacaagttag
124261	gtttgttttg	ttttgcctca	cagtttgctg	tttgtctcca	agttctttga	acaccaccca
124321	ataccacag	aagaggcgctc	cttagcagag	actgccctaa	catctggatc	atcccccttc

FIGURE 1AH

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124381 gcacccgcct cggactctat tgggtatggt ttgacttctg ctcttgggcg acatgctact
124441 tgaaccgctt tcttttggat ctccctggta attagaaacc tttccaatgt ttaaattggt
124501 aaattaagga ctttttcccc aaataactta tcataccact cagatattta catgcatttg
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124801 gtgggattaa agctgacata gactatttca gaaccagtcg tgaaaaaatc atgcaacaga
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124921 cttatgaaga agcattgata tgtgagacaa tggcaacaa tgtaaaaaata gtatataatt
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125281 atgtgtaaaa ccagattatg gagagtcttg gaattgaggc cagaatttag acttaagggt
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125761 gcattgatggc acacacctgt aatcccagct actcaggagg ctgaggcagg agaatcactt
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127201 caaacttgtc tgtaagtcac tttcctgatg tttttatgac ataactccat atggttgtct
127261 ctgtaaagat agaagccaat cttgttcagt atcaaaactc ttttgcaagt tgttactagt
127321 cctgataaca ataataatgg tcatgaaaca agtgtaataa tggatgtaat caagaaatat
127381 tggagaagca atacattgcc cagttttgaa tacaaagtga gagatacctc cttttctact
127441 ttttaaaaat gctgtagaat gtataaaatt gtgagaggtc aacattttaa atgtacgtat
127501 caccagacca aagttttcaa aactttttaa tattctagat taagaatgag atctaaacta
127561 actggtaatt tgctgaaggg tattataatt aaaattcctt ttgtctttaa tttggtagtg
127621 ctttaaagag gtttactgca agataggtac aggtatcatt gggagaaagc cagtttgccg
127681 actgccaaag tacttcatag ggtataagtt accttggtta gtggaaaaat ttcccagtat
127741 ggtaatgtaa ttttatcgat tcccagaaat gatgagattg ggagttatac tggtttgtat
127801 taactgaaat cagaaaaaaa attgaaatcag gataccaggt aatatttttc agtgaaaaat
127861 taactgttta tgtaaattag acttctgtgt ttgtgtgcgc caccactcac tcttcttttg
127921 taagagattt atgggaaatc aaattataat cagaagactg ttttcgttaa gcatagaatt
127981 aggacatggc tgagatatct aRtgacatca gattatgatc acttcaagtg ttcccttgta

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FIGURE 1AI

128041	cttgccctga	aagctagaga	agttgacttg	gtggaccaag	acacaactat	tagataccaa
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128161	tacattcttt	agatatgata	gtgaagtgtc	ttagattaaa	tctggttttt	gtttttcttc
128221	tggaccaatg	tcttttgcat	acttaactct	gatttgttat	ctactacatg	tttctgtcat
128281	attcctaact	tggtgagttt	cagaagtgtc	ttactgccat	ctctgcctat	cccagatcaa
128341	ttattacagt	agactatctt	atgcaattct	agttattcat	actttttcca	attttaagcc
128401	tttttttttt	ttttttaaga	tggagtctca	ctttgtcacc	caggcgagtg	cagagacgtg
128461	atcttggtct	actgcagtct	ctgcctccct	ggttcaagtg	attctcctgc	ctcagccccc
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128701	ttgagacttt	aaatcagcct	gtaaatgggt	gtcagtcagt	cagtgccttt	tctaaaactt
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128881	aataatcaga	aaaaataaaa	aggacctaga	tggaaacatgc	taattttcct	aaaggcttgt
128941	ttctttaccta	taatttctcat	tgagccgata	ccaatttttt	tttagtacct	aatattttat
129001	tatttgcata	tcaattctaa	gtggattcat	ttcatttaata	taaacacatg	aagtcaaaac
129061	ttcttttctt	atctttaata	atatgcttca	aagaagtaaa	attgtgaact	gggtgtggtc
129121	agattctgac	atgtttttatt	cagagactga	ctttcactgt	taggcttcct	tggctcttca
129181	aaccttttatt	cattcctttc	ctactatatt	tttttcccat	tcttcacgtc	tcacaaaagt
129241	gtcttttttt	tccttcaaca	ttgtctttct	agctgtgtct	tagtaaccac	tagtaattag
129301	tttgcataaa	atagggtgga	atgataacca	atatgtgaag	agagcttatt	ggcacttagc
129361	catttcattgg	tcctgatgga	gttaagtgtg	acagcttacc	tcattctatca	agtgcacttc
129421	atttcccccac	tcctaggata	ccctttctga	ggggctacat	ccttccaagt	gtttacaatc
129481	tagtctcaaa	acttttagtgt	tctctgtgtg	tgccagggtc	atttttaggg	gagatatcat
129541	agactatggt	atttagctac	cataccgaaa	taggtatgta	acataatttt	gtgattttcc
129601	aaatagcata	caaagtgaac	attttgggtg	ttttccaaat	agcagttttc	aaaaatattt
129661	gcttttagtgg	ttaatatatg	attctcttgt	gtctctgtta	tcaataatgg	gcatgataaa
129721	aaatccagaa	tatgagagat	attggcactc	tgaggatcat	cttctgaatt	tgaaggat
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129841	gtcctgaaat	atgcatttgt	attctcaaaa	tatttataat	ttcttaatat	gtaaaatttt
129901	catttttagta	aattcagatg	tcaagacaat	gttagaaaaa	aatggcaaat	tatattcagt
129961	cattctcaga	gcattttttt	ataacttcaa	agggtgaact	tcttcagttg	atggccacag
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130081	tcatgtatag	ttcctggagg	gcctacttga	gcaaagcagc	tttggcagta	ttggattttt
130141	aaattaatac	ttttaaaagt	cattactgct	agggttttaa	tgctttaatg	attttgagaa
130201	tataaaaaca	agaaaatcct	tttatcttcc	tttttaata	ttattacctt	tatatcgtaa
130261	ctctgaatct	tatcttccaa	tgacttcatt	tttccaggcc	ccaaattctc	accagtcctg
130321	ctccttcaaa	atccattcca	atccacagc	ccttccgacc	agcagatgaa	gatcatcgaa
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130441	aacctgtcaa	tattgatgta	agtatccagc	attgctagaa	ctaaaaaaaa	accaagtatg
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130561	atcacagtta	ttttaagtga	taagcttctt	gtgaatcaca	aatcagaaaa	gcttctgggt
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130861	cctgtaatcc	caacactttg	ggaggccaag	atgggtggaa	cgcttgacct	agaagttaga
130921	gaccagccta	ggcaacatag	tgagacccca	tctctaccaa	aagtaaaaca	aattagccat
130981	gcatggtgag	gcatgcctgt	agtcccagct	actctggagg	gtgaggtggg	aggattgctt
131041	gagcccagga	ggtcaaggct	cagtgagctt	atgtttgcac	cactgcactc	cagcctgagc
131101	aacagagtga	gaccctgtct	caaaagaaaa	gaatttcaat	ttgtgctatc	ataagcttgg
131161	cattatgacc	aacaaaaact	tgattttttc	tgtgtttatt	ttaaaattag	catataattg
131221	aaactataaa	ttttattaaa	tattaatata	aaagaaaaac	ttataaat	taattttgta
131281	atttttaggta	aatttgcaaa	tcagactttc	ttcccacttt	ttactaagaa	attttctcta
131341	tttttattgg	gttcattttta	agtgaacttt	ttctagtact	agttttcctt	aactagcaag
131401	gttcacctct	atctagcaag	acctaaaaac	aaaggaagaa	aggggaaag	gagaattgtga
131461	tataagaaat	caaaccatat	gtccagggtta	gggtgtgtct	cagctgtctc	aaaattgcaa
131521	ccttcatctt	tactttgaaa	actatcatcc	ttttagacta	ttcccttttt	ctctgattgt
131581	taccactgtt	ccctgggtatg	ttgggttca	tttagagtgt	catctttgta	tcttgctttt
131641	tcactctctc	tcgtaaccag	tcacagggtta	tcaccttttc	atgtgcatct	caaactgggt

FIGURE 1AJ

131701	tttactttatt	accgctgcca	tttgggcccc	tatttttttca	cttgaattat	atactacatt
131761	aatctcctaa	atagatttttc	tgccattgat	ttctctctat	ctattttccat	tccttctgca
131821	actgtcagaa	ttttttttaca	cttctagcat	catctgttct	cttggtccaa	aacttttagt
131881	gactttactgt	tgattacaag	gtaaagtgc	aactcttttag	cattttttatt	catgttcaag
131941	cacttatgat	tccattaaaa	agattttacta	ataactgtgg	gctatgcatt	gtgttaggca
132001	attgggaatt	atttatgaat	tagcacatgg	cctttgccct	caaggaagtc	acagtcta
132061	agggtgaatca	aacattttaa	tagataatta	caaaatatat	aatggtagtt	tagagaagg
132121	ggtaataaac	tccatctgg	tggatctagg	aacattgagc	agagaaggga	caaccttta
132181	gccagattat	ggtgaataag	taggagtaca	ctacataagg	gggttaggaa	agtcatttgt
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132301	agtttagggt	ccaggagaag	gcttggggaa	tggtggaagg	tgaaactagg	caggtaatat
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132541	cagtattttca	gacaagaaat	gatattttaaa	ctcaagtaat	agcattgggtg	ctgagaaaga
132601	gtgtgttttg	gggagggaga	ctatgaatta	gtgaattagt	ggtaagagtc	ttaggaatca
132661	tgttgaaaat	gactactatt	tatgaatact	tattacatac	aggtagctatg	ctaagtgtt
132721	tacgtagact	ttcttattttc	atcctcataa	aaactcatag	gttatgtact	atgattatct
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132841	gctgataaat	tactgaagtg	ggttcaaacc	tggcctttct	ctcttacact	taaccactat
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133141	accttgagta	gagatacaga	tttaggagta	attagcatat	ttatgtcagt	taaagccatg
133201	gatgtaaatt	gctcaaagag	catatgtaaa	ttgaaaagg	gagaaaatgt	aaccctgata
133261	aacattaaca	ttggaggtgc	aggcagagac	tctctgtctc	ctttatgggc	tggtctcttc
133321	taagtctagc	cccagataac	taagaacaag	tggtgcagaa	gccaaaggaa	gaaaagggtg
133381	ttcaagaata	ccaaagtagt	tggtgtcagt	tgccattacg	attcaaatga	gataaaggct
133441	gaaaggacta	tcaatttttg	caattgaaat	gtcatcttta	cttcattgag	agctgtttta
133501	gagggccagt	aagaggagaa	ggcagcaggt	gaggaagtag	gattaagtgt	taattttgag
133561	aagcttggct	gtgaaggaa	gacaaaagag	gatagcttga	ttcagggttg	agggacaatt
133621	ttttttgggt	tttcgggttt	tgtttttgtt	ttgttttgtt	ttttgagatg	gagcttctgt
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134221	acataataag	aattcagaaa	ttatagctaa	tattaatatg	caaatagtta	tagatattag
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134461	ttcgggaatt	aaaaatctaa	gtttatgttg	ttactagcag	taacttgtaa	gagtggagaa
134521	agcaaaatt	ggttaatcca	tagttgtgga	gagtttcaga	gctgatgcaa	cagaaaagaa
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134701	ctatagttaa	catacacagc	actaaaatc	ttatcggtc	ggtgcagttg	ctcacacgtg
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134821	cagcctggcc	aacatgatga	aaccccatct	ctacaaaaaa	taaaaaatta	gccgggcatg
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135061	agcaaaacttt	ggcatctctt	ttattatatt	cttatgcaat	tattcttaaa	ttatttgatt
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135181	aaagttaatg	acatcactag	gattttttata	tttgtagta	gccatataac	tcctgtcacc
135241	ttcttttcag	gtacgtat	gatttttctg	tagaaaatgt	tgaagacttt	atatgataca
135301	ttaa	acatga	tagaaataca	tctttaaaga	atttactttg	tttagcctg

FIGURE 1AK

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135361 gttgtctatt tgcagagact attcagagat atttggggcc attcaatccc tcatatttaa
135421 gttaaactaa ataaacagac taatgcaagt tctacccatc aaggcccaaa ttgcattacc
135481 agtagcgact gtccccacta ccatcggtgt tataaagagc taaatatata tatagttttt
135541 tttttgtttt ttttctgtga tggagtctca ctctgtcacc caggctggag tgcagtgggtg
135601 caatctcagc tcaactgcaac ctccgcctca caggttcaag caattctcct gcctcagcct
135661 cctgagtatc taggattaca gtgcgtgcc accatgcctg tctaattttt gtatttttag
135721 tagagatggg gtttcacccat gttgaccagg ctgggtctcaa actcctaacc tcgtgatcca
135781 ccagcctcag cctcccaaag tgctgggtatt acaggcttga gccaccgcac ccggcgcata
135841 aagagctata ttttaataat aaagacaaat tttagtggcc ggttgcgccg gcttatgcat
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136081 cccaagaggc agaggttgca ataagccaag atcacgccac tgcactccag cctgggcgac
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136261 tacttttaat tttatatatt taaattatac tataaacatg tttcatgatt caagcttcac
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136381 aaatatgtca aaatgcctat aatagagaaa taattattta taacttttta gtatgatgga
136441 taatgttgca ctaaaccatct ttgtgcatat cactttttct tctgaattat ttcttaaga
136501 aaagtcccca gaagtagaat tacagaatca aaggatatga acatttttat ctctcttaat
136561 gtgcaccagt ataatttttt ttaaggattg atgaagccat tttttaaaaa tttattttatt
136621 tccaaagtgc aggggtacat gtgcaggatg tgcagggttg ttactgtagt caacatgtgc
136681 cacagcgggt tgccacacag attatcccat tacctcggtg tgaagcacag catccattag
136741 ttattctttc tgttgctctt cctcctttta ccatccacce tccaacaggc cccagtatgt
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136861 acacagtatt tggttttctg ctcttgcaat agattgttga ggataatgga agccattggt
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138601 ctgccaatta atgttgctgc cagtttgact ttcgatgtgc ttaatagctg tggttttga
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138721 acttagtcac aaacacagcc tgccttagtac cttaaagcaa gtggcatttc ttgtcctttt
138781 catgagtcac tttttaaaaa atcattggga ttttatgaaa ataagcagat ttttggcca
138841 gaattatttt atgaaacagg ctccaattca tcttYtttat tccccatgac ttctttcatt
138901 tcttctgtgt gtctgtcttc ctgtgtttgc ctgccccctc ctttctcttc taacagcccc
138961 tttgaaccag ctgatgcgct gtcttcggaa ataccaatcc cggactccca gtccccctct

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FIGURE 1AL



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140281	tcatacagta	gtgagtaata	caactaaatt	aagtataaca	ataaaactac	tttagtagatc
140341	ataaccgtga	agcctgggtc	agcagtcgag	gctttataat	gttgaaaatt	atcaatggaa
140401	ggtagaaaat	ggattgtgct	ctacttaata	gacattgtgg	ataccatttt	attttagaaa
140461	attgcatatg	agataatgaa	aattctacat	ggtgatataa	tatgatgtaa	taatggtaaa
140521	cattttctac	agattaaaca	tttaaagtgt	gttattggta	tccttgttat	ctgaaagata
140581	gtggctcttt	ttttccctaa	gagtagcagt	cattttttta	aaagaatcta	ttttcttgag
140641	gtcattttgt	tgttctgtat	atagaactat	tgccctggaca	tctgagttct	actcagctgt
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FIGURE 1AM



Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 40 of 87

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FIGURE 1AN

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FIGURE 1AO

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 42 of 87

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153301	gtgcacctgt	tgtgaggcca	aggcaggagt	attgcccag	caaaggagtt	caagaccagc
153361	agtcgaggct	gcaaaaacccc	gtctctacaa	aaaatacaaa	aattagctgg	atgtgatgggt
153421	gacctgtct	gttctcacct	acttggggagg	ctgaggtggg	aggatcactt	gagcccagga
153481	gacctgtct	gcagttagcc	atgatcgtgc	cactacactc	cgccctggat	gacagagcaa
153541	gacctgtct	caaaaataaa	taagaataat	tagaaaagtt	gaatcattag	gactttcaaa
153601	gacctgtct	ttattggatt	acagaatata	agcaaaaaat	ggataggtaa	catttttctt

FIGURE 1AP

153661	gtgtggttat	atcttccatt	tgtacctcag	tgaaaaacta	tttctgattc	ctaggtttac
153721	ttgaaaagga	gcagagctgt	tctaattgta	gataattata	aactcactct	gaggaatcag
153781	ggttggtaaa	gtatgtttta	tcactcttct	ttttggtttt	tttttttttt	ttttgagatg
153841	gaatctcact	gtcaccacag	ctggagtaca	gtggcacgac	cttggtctac	tgaaacctcc
153901	gcctctcagg	ttcaagcgat	tctcctgcct	cagcctcctg	agtaactggg	attacaggca
153961	cccaccacca	cacctggcta	attttgtatt	tttagtaaac	gggttttcac	catgatggcc
154021	aggctggtct	tgaactcctg	acctcaagtg	atctgcccgc	ctcggcctcc	caaagtgtgt
154081	ggattacagg	cgtgagtcac	tgcacctggc	ctgtttttatc	atctttttcac	ctgccagtca
154141	ttgattcatc	ccaaggaccc	agatatctta	agaatactgt	tactaaaaga	attccaggaa
154201	tggtcagtac	attgtgcctt	tttttttttt	tttttttggc	aggccttata	atttcagtat
154261	aatattttatg	gtatgatttt	gaattttaact	ttatcaaaaa	attaaatcac	agaggcacat
154321	agaaaaagtt	acagcctatc	gatataattta	cagaagcatt	atattctcaa	aataagatga
154381	ttaaaaataa	tttgagagata	aatcctttaca	atttactttg	ttttaaacaa	tgatgagcat
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154501	atggtgaaca	tgtatttagtg	attgataata	attctaagtg	gccgaagaat	atttaattat
154561	agtgaacata	atcttctggt	cggtaaaaaat	aataataggg	tgctgataat	aataataatc
154621	agaaaatgca	aggtaaaaaca	aaaagggtacc	actttccacc	cactggaatt	ggcaaaatgc
154681	ctgagttctg	ataagatcaa	atgttcatag	gattagagga	attgcttcct	gggtcatttc
154741	tgatgcaacc	agccacctta	acagcattct	ggaagtagct	gttaaaatag	gaaaatgctt
154801	attctaacc	caagaaacat	tagcttttgt	tccaagtctg	gtatacagaa	agagatgtat
154861	tataggaaac	aatataatag	tgaaaaattg	gtctggatgc	agtggtccat	gcctctaata
154921	ccagcacttt	ggaagactag	ggtaaatagga	tcacttgagg	ccgggagttt	gagaccagcc
154981	tggatgacac	tgtgcgaccc	tgactctatg	taaaacttaa	aacattaagg	acattttttt
155041	aaaaaaagaa	aaacttattg	aaaaattgga	aacatgttca	tcaggagaag	acttgataaa
155101	taacatattg	gcacttacat	acagtagaat	cgtatatagt	agttaaaagt	ggattatata
155161	tgtatcaaca	taaagcttta	aaatattaat	gttaagttag	aaaagcaagc	tgagcatga
155221	gaccacttaa	aaatttttaa	gcagaacatt	ttttacattt	gggctttaaa	aagtgggtgtg
155281	tatgtatata	tgtaaaagta	ctgaaataag	gattagaaag	caaagatcaa	gtaacatagt
155341	gattatctcc	aggaatcaag	tacaaacttt	gaaaaaagac	tggaggtggc	caagcacggt
155401	ggctcatgcc	tgtaattcca	gcaccttgga	aggccaaggc	agggtgatca	cttgaggaca
155461	ggagtctcag	actagcctgg	ccaacatggt	gaaacaccat	atctactaaa	aatacaaaaa
155521	atcagctggg	catggtggcc	ggtgcctgta	atcccaatta	cttgggaggc	tgaggcaaca
155581	gaatcgcttg	aacctcaggag	acggaggttg	cagtgcagca	agatggcacc	agtcacttcc
155641	agcctagggtg	acagagcgag	attctgtctc	aaaaaaaaaa	aagactggag	gtgttttagt
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155761	gaaacttatt	tctcatagtt	ctagaggctg	ggaagtccaa	gggcattggt	gctaacatct
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155881	gagtgggcac	acacaaaagg	ggcagaacac	aagggaacag	ctcactctat	agcaaccccc
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156121	gcacactcct	gtagccccag	atactctgga	ggctgaggca	ggaggatcac	ttgagcccag
156181	aagtttgagg	ctacagttag	gcattgattga	gtccactgca	ctccagcctg	ggtgacaaag
156241	tgagaccctg	actcaaagaa	aaaaagaagt	cagtgcactcc	tgctttcatg	agggcattcc
156301	tcatgaccca	gacccaaatg	cctcttaaa	gtcccaccaa	ctctcaacac	cattacactg
156361	gggccaagcc	tccacatgag	ttttgtgggg	acaagccata	ttcaaaactgt	agcaggaggc
156421	aaatgtataa	aagttttaat	gggtctgatt	atggtaagaa	tatgagttag	attatccttt
156481	gctactgcag	ttttttttaa	atttcaaaat	catgttacga	ggaaatatgt	aatcattata
156541	ggaaattcag	aaaatgtaaa	cataaataaa	aagcaccagt	aatccaccat	caagagataa
156601	ctgtcattaa	tattttgatg	tgtatttgtg	atcctttcag	aatgatgtgt	tttaatacta
156661	tacacaatgg	tttcttgctg	ttgtttttaa	tcatactggg	ttttcctttt	tactcttaaa
156721	tatctctact	ggtcaataaa	tatctgatac	cagctctgct	acatactgtt	aactcactgt
156781	ctcccccttt	tctttatgcc	aactatgttc	tgtgggggtt	cttaaaatat	actgtaatgt
156841	atttagcaat	gatatgcact	tactatgtgt	cagacattct	gtgtacttta	tatacattac
156901	ctcatttact	cctcaacaac	cctgtgaggt	tgcagctttt	attatatact	tgttttatgg
156961	atgaagaaac	ctgggttatgg	aaggggcaag	taacttgccc	caggtacttc	agctccaggg
157021	tgtattcctt	taaccattaa	agcatgttgc	ttcccaact	tattcagttc	cttcgaaaaa
157081	ttcaagtaga	cccttaatgt	tatagggcag	ttacactttc	agtttcttag	ttcattcact
157141	gtcctctttt	agacactgtc	ataccgcctc	aaaacctcat	atccttaagc	ctctaaaacc
157201	tcttcttcaa	gaaatcagcg	atgacattgc	ttgccatctc	tttaagacag	ttggaagtaa
157261	ccattatgac	atctacccac	ctgcctgcat	tcataaccag	ttcttctgcc	ttatcactag

FIGURE 1AQ

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157321 taaaagccaa tccctccatt tgtacactag attccatccc cttaccoccta cccagagaca
157381 tcttttgagt aaatctccca tcttgtttat catcagtttt tcctttccta ctgaattttc
157441 tcctatttta aaacatcttt tggctgggca cgggtggttca tgcctgtaat cccaacactt
157501 cggaagctg aggcgggtgg attgcttgag ctcaggagtt caagatcaga ctgagcaaca
157561 tagtggaacc catctctacc aaaaaatata aaaattagcc aggcgtggtg gtctgtgcct
157621 gtggtcccag ctacttgga agctgagaca agtggatctc tagagcctgg gaagatgagg
157681 ctgcagagag tcaagatcgc gccactgcat tccagcctgg gtgacagagc aagactctgt
157741 ctcaaaaaata agtaaaaaa taaaacatct ttcactgagt gcagtggttc acacctgtaa
157801 tcccagccct ttgggaagct aacgtgggaa gatcacttga gctcaggagt tggagaccag
157861 cttgggtaac agagtgagtc cttgtctcag aaaactaaag taaaatttaa aagtagggca
157921 ggtgtggtgg ctacacttg taatccaagc actttaggag gctgaggctg gtggatcact
157981 tgagcccagg agtttgagac caccctaggc aacatggcaa aaccgctctc taaaaaaat
158041 acaaaaatta tccagatgtg gtggtgtatg tctgtggtcc cagctactcg ggaggctgag
158101 gttgcagtga gtggagattg caccactgca ctccagccag ggcgacagag tgaaacctgt
158161 tctcaaaaaa aaaattaaaga agtaacagta ataatgaaac atctttctta tgcacatttg
158221 gcagaatggt gacatttggt gaatctatgt ggaagggtgt tgggtattct tctcattttt
158281 ctgtatgttt atttctttt ttgttggtgt tttgtttttt ttattattat actttcagtt
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158461 ccttgcccca cccacaata gtccccagag tgtgatgttc cccttctgt gtccatgtgt
158521 tctcattggt caattcccat ctatgagtga gaacatgcgg tgtttggttt ttgtccttg
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158761 atacgtgtgc atgtgtcttt atagcagcat gatttataat cctttgggtg tataccagct
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158881 gacttccaca aaggttgaa cctgtttacag tcccaccaac agtgtaaaag tgttcctatt
158941 tctccatata ctctccagca cctgttggtt cctgactttt taatgattgc cattctaatt
159001 ggtgtgagat ggtatctcat tatggttttg atttgcattt ctctgatggc cagtgatgat
159061 gagcattttt tcatgtgtct tttggctgca taaatgtctt cttttgagaa gtgtctgttc
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160441 ttgtcataga tagctcttaa tattttgaga tacgtcccat caatacctaa ttatttgaga
160501 gtttttagca tgaagggttg ttgaattttg tcaaaggcct tttctgcata tattgagata
160561 atcatgtggt ttttgtcttt ggttctgttt atatgctgga ttacatttat tgatttgcgt
160621 atgttgaaac agccttgcat cccagggatg aagcccactt gatcatgggt aataagcttt
160681 ttgattgtct gctgatttcg gtttgccagt actttattga ggatttttgc atcaatgttc
160741 atcaaggata tcggtctaaa attctctttt ttggttgtgt ctctgcctgg ctttggtatc
160801 aggatgatc tggcctcata aaatgagtta gggaggattc cctctttttc tattgattgg
160861 aatagtttca gaaggaaatg taccagttcc tccttgatc tctggtagaa ttcagctttg
160921 aatccgtctg gtccctggact ctttttggtt ggtaagctat tgattactgc cacaatttga

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FIGURE 1AR

160981 gatcctgtta ttggtctatt cagagattca acttcttctt ggtttagtct tgggagagt  
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161101 ttgtagtatt ctctgatggt agtttgtatt tctgtgggat tgggtgggat atccccctta  
161161 tcattttttt attgcatcta tttgattctt ctctcttttc ttctttatta gtcttgctag  
161221 tgggtctatca attttgttga tcctttcaaa aaaccagctc ctgggccagc cgccccgtcc  
161281 gggaaggagg tgggggggtc agccccccgc ccagccagct gcctcgtccg ggagggtagg  
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162361 tgtccctcta cacactgctt tgaatgtgtc ccagagattc tgggtatgtg tgtctttgtt  
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162481 attcaggagc agcttgttca gtttccatgt agttgagtgg ttttgagtga gtttcttaat  
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162661 gtgtgggtgct gaaaaaatg tatattctgt tgatttgggg tggagagttc ttagatgtc  
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164161 cttaatcctg cttctctctt cagttattac ctcatctctc ttcttcttct gacagtaaaa  
164221 cttctcaaaa gacttgttgg tattcactgt ccagtgtctc tccttcttct ttaatttggg  
164281 cccactcaa accaggcttt tgcccctgct gctccagaaa acatcttttt tttttttttt  
164341 tttctctctc tcaaggaaga gtctcactct gtccctcagg ctggagtaca atggcatgat  
164401 ctcagctcac tacaacctct gtctccaggg ttcaagtgat tctcctgcct tagtctccca  
164461 agtagctggg attacagggt cacaccacca ccccagcta attttgtat gtttagtaga  
164521 gacagggttt cactatgttg gccaggctgg tctggaactc ctgacctcaa gtgggtctgcc  
164581 catctcgga tcccaaagtg ctggaattac aggcattgat cactgtgcct agccaggaaa

FIGURE 1AS



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164641 cagcgtctta atatgatagt tactggtggc ctccatgttg ctagatccag cagtaaaatt
164701 ctcagttccac agtttatttg acctgtcaga aacatctgat acagttgatc acacacttct
164761 tcatgaaaca ggttcttaat cccttgttta attgtgttct tagtttcttg ctgctcagaa
164821 tgtggtctga gtagcatctg taccacctgg gagcctttta gaaatgctaa gttttagata
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165241 atcccagcta cttgggaggc tgaggcgga gaatcacttg aaccgggag gcagaggttg
165301 cagtgaacca aaatcgtgcc attgcactcc agcctgggtg acaagggcaa aactccatct
165361 taaataaata aataacctat aatcagaacc agcaatacaa agtattatca aggataaaga
165421 acaactggaa ctctcatata ttgctggtta agattttaa tgatacagcc attttaggga
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165841 tcgcaaaaat gtatgaagaa actttctggg gtgacggata ttctttatat tgattgtgac
165901 tggctcattac acaagtgtat gtgtgtgttg aaacttttaa aactgtccat gtaaaatggg
165961 tgcattctgt gtgtaaactg tacctcagta aatttcagtt tttaaaagtg aaaaatacct
166021 gatggcttac acctataatt ctagcacttc gggaggccga ggtgggagga tggcttgagc
166081 ccaggagttc aagaccagcc tgggcaacat agtgagacc atctatacaa agcagttttt
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166201 tgggtctctc tgagcccagg aggttgaggc tgcagtgaagc tgtgactatg ccactgtact
166261 ccagcctggg caagagagca acaccctgtc tccaaaaaaa aaagtgaagg aaactaaaaa
166321 atcaaggcaa aaatagaatt taggccacta tggagcataa ctttaaaata tgtgaacttt
166381 acctattcga tattttaatt atttttaaag tgataaatga ttactgacta cagagaagta
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166501 caaagtataa ggaaggctgt aatttggcac tgtcaccact atcacctta ccagtcagg
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166621 tgcagtatta ggtgaaagag ggctgacatg caaatgtcta agtaggtcag ttctgtgttt
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166921 tgagattcct atcctcagtc ctctcttgaa tataattacg tatttgaag taacttatgt
166981 gaggaattat tagcatgccg atcttttaaaa atctcctttt ttcagctctc acgtaagact
167041 cttgaaacaa gaaaataaaa ataacctatg ttttattaaa gaaaaatgaa gcaggcaaga
167101 aaaaaccgac ttttttagtg aaagctaaag ttttaatctg aaattataga ccatgtctac
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167221 aggtcgaggc aggcagatca cgaggtcaag agactgagcc catcctagcc aacatggtga
167281 aaccccatct ctactaaaaa cacaataaatt agctgggcat ggtggcgcg gcctgtagt
167341 ccagctactc aggaggctga ggcaggagaa tcacttgaac ctaggaggtg gaggttgag
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167641 taattaaata taattttaat tggactcagt agcatgactt tggctgccat aacaatcaca
167701 ataagtctct atttaatgtt gtatgccac catgtgggag atgaagatga ggatctcacc
167761 atagtttgtg ttggttagat ccgatctgaa gtattgcttt taatttgggg caccacatta
167821 tgctctgtaa gaatgtggaa aagctgaatc ttggataaga gcttgaagta gtgtgagaag
167881 aaattttacc agatgatatt gtagctctaa gattaaatgg ttctataggg gcacactttt
167941 tcttcaagga atgagactgt taagagaaac ctatcaagag aatgtgttgt tcctttgggt
168001 gatagcatat ttgttctttc ctgactcttc tgtaaaactg taatgctctc cttaacatct
168061 taccaaggaa agagggaggt ccaatctaat tatcctaatt aatggattga cttctgtgtc
168121 atatatggca aagtaaagtt gatataattc tgttcccttc cctactccca aacagtatg
168181 tgagttatgt gttttctgtt atttttgttt gggttttttt tttggcattt tccattgtaa
168241 ctgggtggtg cttaggaaat tacgttttag tgtccccta tatagaatta tttagggtag

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FIGURE 1AT



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168301 tgattactgt gaaacattat cttatgtagg gattcggttg tgtctcatcc catttctcta
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168421 tctttgctgc ttttggtaca gaaggattac agaaagagaa ttattcaatg agataaaaaat
168481 taacaaagca gtttgtaagt aataaaggat tacacaggta taaagtgttg tttcagggtg
168541 tatttttatg caactcggcc tataacaaat ttatgctata taacttctat gctgggtata
168601 tcaactggtc cccaattaca tttatatctt gttaattatc tagtgcttcc ctggtcagaa
168661 aattttcttc cccactctcc ccagttacat ttctgtctac tctattcttg ctatattcct
168721 ctgcatcaaa tttgttgaaa ggattaacac catcccatgg agaacacctt tatcttcccc
168781 tcttttatct tcagcatgcc tctgtatttt gatatggttg aagcccattt gtttttgttt
168841 ttaagtcttg caggaaaaag aacctccttt caaagaccaa caccttggtg gtatactaga
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168961 ccctttcttt ctaatggaga caagatctca ccatcttaaa gctttgattg gggccattt
169021 atttccacca gtttttaact ttgtatgtca ctgcagaact ttgtaagcag tgagacctat
169081 aaccgaaata acattttctt tcagtgaag agtgacaata tgatgtagaa cactgagcct
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169621 gacacagccc ttttgagaca ggaggatctc ttgagcccag gagggtggagg ttgcagttag
169681 ccaaggctcg gccactacac tccagcctgg gtgatagagt aagactttgt ctccccaaaa
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169921 taaaaatagt ttttaattacc aaactgcatt ttctagtagt ttacattcca aatagaagtg
169981 aacataggca cgttgaaaaa acacatgaat caagccatta ttatgataat tactacataa
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170161 aacttgagg gttgggtgta ggaggggagc attgaacaca gtggtgggat taaatatcaa
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170521 ttgtttttca gttacttaca cgccaagtca atcatccaca gagacctcaa gtagtaatagt
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170641 gtcttcacat tatgtaaaaa cagttttcat gctaagttcg atatactgta aagagaatta
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170761 cgacaactga acattacaag aaaatctatc agaagtcttt acaatagtag gagttttga
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171001 atctgcagca tcttcattcc aatgaagagc ctttactgct cgcccaggag tgccaagaga
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171121 ggaaagcatc tcacctcatc ctaacacatt tcaagcccca aaaatcttaa aagcaggtta
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171241 tgaagtacta tgttttaaag aatattatat tacagaatta tagaaattag atctcttacc
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171481 tttgtggatg gtaagaattg aggctatttt tccactgatt aaatttttgg ccctgagatg
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171661 cccttaaaac gaatattttg aaaccagttt cagtgtattt caaacaaaaa tatatgtctt
171721 ataaacagtg tttcatattt tattcttaaa taaatatgaa cccttaaaac gaatattttg
171781 aaaccagttt cagtgtattt caaacaaaaa tatatgtctt ataaacagtg tttcatattt
171841 tattctaaat tgtttaaagt attttgtgtt caaaatgttc tgtgtaccct gttgaaaaaa
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FIGURE 1AU

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171961 agaactactc cttttaacag agaagctggt tgcgaatcct atttaagcct aaattggaaa
172021 gttacttcct ttagactaga aagtatctca taattatggg gcagctggaa gaggaaagac
172081 aaaaaaaaat ttagactaga ttaacagcct tgtgctgtct tgcatagctc tttctttcct
172141 cttgtttttt gctttgtgga aaagaagaaa gagaagttct aaaagaaggg aacaaaaact
172201 tgtgtgcatt gcagcaagct gtggaaagct cagtcatatg aatcattccc taaaacagca
172261 ttcttaaaag ggtccctcac accgttttag aggggccaca agatcttccc tttgtgagac
172321 aagattttct ttatatcctt caacccaaac aacacattgc aacagactga gtgcaaaagc
172381 aaatatgaga atccagctgg ctgctgttaa gccagacatt gaggagaatc acaggccact
172441 catggtggct ggagtcata gttccagcta cctgggaggc tagggcagga ggatcacttg
172501 atcccaggag ttgactggcc tgcacaacat agtgagacct catctctaaa ccataaaagg
172561 aggataattg tagtactatt cttcttacta aacttttttt tgataatagt tatttttcat
172621 taaaaatgaa tgatctgtgt taacatctac ttgttattat tttagtagtt aaatgaatta
172681 ctagtttaat ttctccatta aattttaatg gtaaaccatcc acagatataa tctacctaaa
172741 caaaagttct ttatcatcct caataatttt taagagtga aaagagtcct gagacaaaaa
172801 agtttgaaaa acacagctct aagctgaata cagcctttcc aaaagtcctt gtgcaattct
172861 aagctttaaa taacttaatc tgcactaaga ctttcgggca ccctgctgga aacagaaaag
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173341 acacaccttg tgaaaaagat ggcagtgat cctaaaaaga tgagggaaaa cagattttta
173401 gtgctgaaat tgcaaacct aaaattataa acaattgtca cgtgctttta aagtatgtta
173461 atttttgact atgtgggaga gttaggctca atcaagtcct cagttttgtc cttacttttt
173521 caaaaacctt agtttataca gttttagat tattatacat aaagttttat attttcttac
173581 aattaatttt ttgttgatac ctgtgtaaat gggtttctcc tttattcttt catgtgagt
173641 ttttagacga gagaataata gccaacagta ccctttattg ttaaaccaat cctgggttga
173701 tactgccctc agaaacaaat atggaacatc cgtatcatag gagagaagag tttggtcata
173761 actaaggctg tgtggtcctt tgaattatat acaatgttct tctcaacttt gttttatttg
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174301 tctgttacgt tgtgtgattg gactggagtg tagtctggac gttgaggggt ttaaggctcc
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174661 caatacaatg actgaaatgt gtaaaaatgt agcaaatatg attgtttcat tgcccaagaa
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175441 gacagttacc ttattcaaac atcaacaaca gggaccagggt aaataatttac cagctcttgg
175501 tgtttatttt accgtctata tacaaggctc cagttgtaga aaataagtgt caactcctgg
175561 gtaagcgtga aggatagatt tcttgatttt ttgttaccag ttttagaaat cgtttgtata

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FIGURE 1AV

175621	cttttggcag	taatagcaac	acgttaagtc	ctttcctcag	aatatcagtc	atgaatgtta
175681	caatggaata	aaattcctga	ttttctgact	agaaactaca	gttacaagaa	tggatatttc
175741	ttgaccatcg	cacaattaga	agaatgagct	ctgctactat	agcatctggg	cattatactt
175801	ttcactgtat	cacagattgt	gctgtcagaa	caggactca	gctatgagat	ctttatatta
175861	aattctttta	aaattactaa	ggtttcttga	aattctttaat	ttttaaaact	aggtaaattgg
175921	aagaaatcat	gctttgattt	ttctataatg	agaatgctag	taggagggta	attttttact
175981	tcttttcctt	cctaagcaac	tattccctgt	cccttacctt	ccaaaaggta	ctaacatagc
176041	ctcatggagc	tcttagcctt	ttctatctct	gcctcagtag	gctcgcttag	acttttaaaa
176101	ttggccaaga	aaagtgaatt	atctttacta	aaattacctt	ggataactac	attttaaaag
176161	atttgtgatt	gtgtgtgtag	agagattaca	acagttacac	tgtaaatata	ttagaaaaca
176221	ctagttgacc	acataaactc	tgattaaaga	atatttcgac	tttatgctgt	gatttgcctc
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176341	ggagggtcca	atcacctgca	tttttttctg	tttcccaggt	gattctaata	cagaccaaag
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176461	taacttccca	acctaataaa	atggtagttt	ttgtatataa	atgttactgc	ttcattttaag
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176881	aaatttcagc	taaagaacat	aattgaaaca	ttgtacttac	tgtactttgt	atagattctag
176941	atcactgaaa	tgattgattt	gacaatggca	gttggggtag	caaaatggtc	tctaatttac
177001	aagcttcatg	tcctctgtct	tttacagtct	tatttattca	atcatacagc	ataacagcct
177061	gtaccatgtt	cacttttcct	gtatataata	tttttctgga	ggaattatgg	attttttagt
177121	tagtttcagt	tgatttatca	tatagactac	aaattaataa	aaatttatga	acctaagatc
177181	tggatgaaat	tcatttgtca	gtgaatacgt	ttatcttagt	acaataataa	aattataata
177241	tagaacaaga	tattatctcc	aaaatacaga	taaaagcatc	ccagagtctt	cttcttacc
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177361	gcttactctc	catgagagga	atgtgtgacc	aacagaaggg	taaggccttt	actagttaat
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177661	tttttctttt	gctatctata	atacttggat	ctccatagct	ctcagattag	acttctgttt
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178381	gtcatccccc	cactctcttt	atcatttctaa	catttttctc	tctaataccc	ctgttcttcc
178441	ctccttcagt	gcattttctc	ttgtaaattg	ggattaataa	tgtgtcact	taagtatatt
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178561	agatagcata	tatctgttat	ttcaagtgtg	ttattccaag	tataattgct	gcataacaaa
178621	ccaccagaa	tgtagtagct	taaaatatga	atctgtaggt	tgggcttttc	tctgtgagga
178681	agattcttac	ctgtttcaca	ccgtattgac	tagagtagat	ttacgggggtg	ttaaaaggat
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178801	tcagttattc	tccacatgag	cttttccttg	tggacctctt	cgcaggtctt	caaggacctc
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178921	gaagtaagta	ctagtctctt	atcagtaggc	aaattatttt	aatagaaaat	gttttcaata
178981	ccaactatat	gcaaagcact	atggaatata	gaaggattca	aatgaataa	aacaaaaccc
179041	aggctctgct	ctcaatggca	tgtgcagttc	tgttgaggcc	gtgctggggg	tgatactgaa
179101	aatgagcaga	catgagctcc	agtaatacca	tggagtgaat	tgacagggtc	gagacaccag
179161	gagtactgag	tgtgtattga	aagtagaaa	aatcagtcct	agaatttgaa	gtcggggtat
179221	tggtttcggt	gtgtatgtgc	cacatgaatc	ttctgtccat	gaataacatc	caggaaaaac

FIGURE 1AW

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179281 ttcccttttt tttcttttct gtttcttcat cagtcagcct ctgcacccca ccccagcaga
179341 tactgaaagt ttctgtcttt ctgctctgca ctaactaaat tctgtgggat gtataaaaac
179401 atgagagttg tctttgattt tttttctcac attcctcctg aaagactcctt gaaaaactat
179461 gtatctcctt gtatattttt taagtgtgca tctaaaagtt tttatcttaa gtttaataaa
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179641 tttatgccta ttaaaaaata ctgaagctct tcattaattt ctggaagttt tacatggttc
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180301 tacagtttat tacaatgaaa gaatacagat caaaattaac aagggaagag actcatagga
180361 cagaattcag aagcgttctt gttggagctt cctgtcaccc tctcccaatg gagttgtgga
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182461 cagtagaatc tcttgaaccc aggaagggga ggttgacagt agccgagatc acaccactac
182521 actctagcct gggcaacaga gcaagactgt ctcaaattaa aaaacaaaaa caaaaaaac
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182821 ctctgttggc cagtctggag tatagtgtgg catgatcttg gctcactgca acctctgcct
182881 cctgggttca atcaattcct tgctcagcc tcccacgtag ctgggactac aggcacatac

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FIGURE 1AX

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 51 of 87

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183121	gagtcacaat	ctctctgcct	gagcaccat	agtctcattg	gagaacttag	ataagataca
183181	tatcacaaaa	agattaataa	ccatacaagg	cagtaaataga	tcatcacagc	tagtgggtggg
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183601	ccttttccac	tgatagccaa	gtaagaatac	ctgaattgct	gtccataata	tatgactata
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184081	ctctccccct	gttgcaacct	ttccctctaa	gaccaaagc	ccttctctca	ggctgtcctc
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184201	ggaaatttaag	aaattagaaa	aaatttaaaa	tctctgaatc	cagggagagc	aagcctTTTT
184261	atttcgttaa	acagatttta	gtcctaatg	gcttccccct	ctctcctctg	gcggaggctc
184321	tggtttgtat	aaccaagtgg	cccattagcg	tttccacaat	aaaagggtct	aagatgcaga
184381	tgccaaaacg	actgctaaaa	tgtaaacctt	tttggttttc	cctacacata	tatagaggac
184441	ttaacacaac	gtccaacaac	aagaagtgt	gaataaaatt	tttttttttt	taaagtaaag
184501	aagaggcact	gtcagatctg	tttttagatg	ttaccctgtg	agtgggaaaa	tggactggat
184561	aaagagagac	caaaagcagg	ggagcaatta	gagaaccttt	gccacagtcc	aaggatcatg
184621	aagatttgag	cttgcaactc	ttttgtgggt	ttcccaccat	ctatgatgtg	ctattgggtt
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185221	aaaatttatcg	aagaccccc	ccccacaaa	gagcttttgt	ttatataagt	tttaattcct
185281	tattagaaat	taaaactatt	ttttaaaata	ttaatgaatt	aaacatagta	aaccaatatg
185341	ttaaataata	tttagaaaaa	aacagttcta	ttatctaaga	gaaaaaaatt	agtgaggagt
185401	tgtattgttt	tacttttttt	gcaaatccct	ttgcaaaaag	aagacagctg	gattctccgc
185461	ttttgcactc	acattgcaat	atctcacatc	atgtcacccc	taaaaactct	acttaacgct
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185941	ggccaacatg	gtgaaaaccg	tctctactaa	aaatacaaaa	attagctggg	catagtggca
186001	ggagcctgta	atcccagcca	ctcaggagcc	tgagacatga	gaatcgcttg	aaccaggagg
186061	gtggagattg	taatgagctg	agatgacacc	actgcattcc	agccagggca	acagaaatgag
186121	actctgttta	aaacaaaaca	aaacaaaat	atctaaatac	ctcaactagc	ttcacagatt
186181	tagctgtagt	agatattata	atataaatgc	aatgttttct	gatacttagg	gagctcctga
186241	tagcactgga	taaatatgcc	ttgatgaatc	agtacagttt	caagtgggaa	gtgctatttc
186301	ccatagtaac	cctgctacca	taattactgg	agtgttcatg	tatgaactct	taggcctttg
186361	aatgcccagt	cctagctgag	taactcagac	agaagtcaat	gttacaggaa	ttagattcac
186421	tcacctctta	tttttaaatc	tattcttctc	tattcttctc	ttaaagaatga	aagaagataa
186481	aattgatggg	tttaacaagt	ctgtcagggt	gttgccctaag	aaaagaaagg	gaaagctaag
186541	tggttggctg	ggtagatata	agtttcattt	atcaggtttc	aaagttagctg	ttccttttag

FIGURE 1AY

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186721 ccatgtttctc ttttcacgtc atgggtgctcg ggttcttact tagaatgttt attgacatta
186781 ataatagcaa gtacatcctt aggcccactt tttaaatgat attaaaaggg gcaaaaatgct
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189901 gattttcatt cttctttctg ttttttcttt ttctttcttt cttttttttt cttttttctt
189961 tttttttctt tttttttctt tttttttttt gtagattctc gcctctattg agctgtgggc
190021 ccgctcattg ccaaaaattc accgcagtgc atcagaaccc tccttgaatc gggctgggtt
190081 ccaaacagag gatttttagt tatatgcttg tgcttctcca aaaacacca tccaggcagg
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190201 aacaaaagga aaataaatga acatatgttt gcttatatgt taaattgaat aaaaactctt

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FIGURE 1AZ

190261 *ctttttttttt aaggtg*

**FIGURE 1AAA**



PPPRPTAAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIQMIKLTQ  
EHIEALLDKFGGEHNPPSIYLEAYEYTSKLDALQQREQQLLES LGNGTDFSVSSSASMDTVTSSSSSSLSVLPS  
SLSVFQNPTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPI  
GWDTDISWLTGEELHVEVLENVPLTTHNFVRKTFFTLAFCDFCRKLLFQGFRQCCTCGYKFHQRCSTEVPLMCVNY  
DQLDLLFVSKFFEHHPIQEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIPPQFRPADEDHRNQFG  
QRDRSSSAPNVHINTIEPVNIDDLIRDQGGFRDGGSTTGLSATPPASLPGSLTNVKALQKSPGPQREKSSSSSE  
DRNRMKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKKGWHDVAVKMLNVTAPTQQQLQAFKNEVGVLKRT  
RNVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIIETKFEMIKLIDARQTAQGMDYLHAKSIIHRDLKSNNIF  
LHEDLTVKIGDFGLATVKSRSWGS HQFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYAFGIVLYELMTGQLPYSN  
INNRDQIIIFMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKRDERPLFPQILASIELLARS LPKIHRASEPSL  
NRAGFQTEDFS LYACASPKTPIQAGGYGAFPVH

FIGURE 2A

AAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEAL  
LDKFGGEHNPPSIYLEAYEEYTSKLDALQQREQQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLSVFQ  
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TLGRRDSSDDWEIPDGQITVGQRIGSGSFGT VYKKGWHGDVAVKMLNVTAPTQQQLQAFKNEVGVLKTRHVNIL  
LFMGYSTKPQLAIVTQWCEGSSLYHHLHI IETKFEMIKLIDIARQTAQGMDYLHAKSIIHRDLKSNNIFLHEDLT  
VKIGDFGLATVKSRWSGSHQFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYA FGI VLYELMTGQLPYSNINN RDQ  
VLCPPEYNNK

FIGURE 2B

FMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKRDERPRLYLILASIELLARSLPKIHRSAEPSLNRAGFQTE  
DFSLYACASPKTPIQAGGYGAFFVH

**FIGURE 2C**

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 57 of 87

AAARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEAL  
LDKFGGEHNPPSIYLEAYEYTSKLDALQQREQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLVVFQ  
NPTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGYGLYVT

**FIGURE 2D**

**Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF**

**First Inventor: Richard B. ROTH**

**Docket No.: 524592003800**

**Sheet 58 of 87**

AARAPALGYKMAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAASSAADPAIPEEVWNIKQMIKLTQEHIEALL  
DKFGGEHNPPSIYLEAYEYTSKLDALQQREQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLVFN  
PTDVARSNPKSPQKPIVRVFLPNKQRTVVSQF

**FIGURE 2E**

MHSNKENNSYWNLWGTIELIFLFLALHQWIP LHLPLLAFCYLHLFQFFKIPQMWHGATPSHHKNLSLESSCPTN  
RGQW

**FIGURE 2F**

L V S K Q R I L V Y M L V L L Q K H P S R Q G D M E N L Q P S S S H H G S I C S Y F L S L V F V Q F V N I K T Q F C S S N L F L K I Q N F Q C I S

**FIGURE 2G**



```

1  atggcggcgc tgagcgggtg cggtgggtggc ggcgcgggagc cgggccaggc tctgttcaac
61  ggggacatgg agcccgaggc cggcgccggc cggcccgcgg cctcttcggc tgcggaccct
121 gccattccgg aggaggtgtg gaatatcaaa caaatgatta agttgacaca ggaacatata
181 gaggccctat tggacaaatt tggtagggag cataatccac catcaatata tctggaggcc
241 tatgaagaat acaccagcaa gctagatgca ctccaacaaa gagaacaaca gttattggaa
301 tctctgggga acggaactga tttttctgtt tctagctctg catcaatgga taccgttaca
361 tcttcttctt cttctagcct ttcagtgtca ccttcatctc tttcagtttt tcaaaatccc
421 acagatgtgg cacggagcaa cccaagtca ccacaaaaac ctatcgtagg agtcttctctg
481 cccaacaaac agaggacagt ggtacctgca aggtgtggag ttacagtcgg agacagtcta
541 aagaaagcac tgatgatgag aggtctaata ccagagtgtc gtgctgttta cagaattcag
601 gatggagaga agaaaccaat tggttgggac actgatattt cctggcttac tggagaagaa
661 ttgcatgtgg aagtgttggg gaatgttcca cttacaacac acaactttgt acgaaaaacg
721 tttttcacct tagcattttg tgacttttgt cgaaagctgc ttttccaggg tttccgctgt
781 caaacatgtg gttataaatt tcaccagcgt tgtagtacag aagttccact gatgtgtgtt
841 aattatgacc aacttgattt gctgtttgtc tccaagttct ttgaacacca cccaatacca
901 caggaagagg cgtccttagc agagactgcc ctaacatctg gatcatcccc ttccgcaccc
961 gcctcggact ctattgggcc ccaaattctc accagtcctg ctcttcaaaa atccattcca
1021 attccacagc ctttccgacc agcagatgaa gatcatcgaa atcaatttgg gcaacgagac
1081 cgatcctcat cagctcccaa tgtgcatata aacacaatag aacctgtcaa tattgatgac
1141 ttgattagag accaaggatt tcgtgggtgat ggaggatcaa ccacaggttt gtctgtctacc
1201 cccctgcct cattacctgg ctactaact aacgtgaaag ccttacagaa atctccagga
1261 cctcagcgag aaaggaagtc atcttcatcc tcagaagaca ggaatcgaat gaaaacactt
1321 ggtagacggg actcgagtga tgattgggag attcctgatg ggcagattac agtgggacaa
1381 agaattggat ctggatcatt tggacagtc tacaagggaa agtggcatgg tgatgtggca
1441 gtgaaaatgt tgaatgtgac agcacctaca cctcagcagt tacaagcctt caaaaatgaa
1501 gtaggagtac tcaggaaaaac acgacatgtg aatatcctac tcttcatggg ctattccaca
1561 aagccacaac tggctattgt taccagtggt tgtgagggtc ccagcttgta tcaccatctc
1621 catatcattg agaccaaatt tgagatgata aaacttatag atattgcacg acagactgca
1681 cagggcatgg attacttaca cgccaagtca atcatccaca gagacctcaa gagtaataat
1741 atatttcttc atgaagacct cacagtaaaa ataggtgatt ttggtctagc tacagtgaag
1801 tctcgatgga gtgggtccca tcagtttgaa cagttgtctg gatccatttt gtggatggca
1861 ccagaagtca tcagaatgca agataaaaaat ccatacagct ttcagtcaga tgtatatgca
1921 tttgggattg ttctgtatga attgatgact ggacagttac cttattcaaa catcaacaac
1981 agggaccaga taatttttat ggtgggacga ggatacctgt ctccagatct cagtaaggta
2041 cggagtaact gtccaaaagc catgaagaga ttaatggcag agtgcctcaa aaagaaaaga
2101 gatgagagac cactctttcc ccaaattctc gcctctattg agctgctggc ccgctcattg
2161 ccaaaaattc accgcagtgc atcagaaccc tccttgaatc gggctgggtt ccaaacagag
2221 gatttttagtc tatatgcttg tgcttctcca aaaacaccca tccaggcagg gggatatggt
2281 gcgttttctg tccactga

```

FIGURE 3A

MAALSGGGGGAEPGQALFNGDMEPEAGAGRPAASSAADPAIPEEVWNIKQMIKLTQEHIEALLDKFGGEHNPPS  
IYLEAYEEYTSKLDALQQREQQLLESLGNGTDFSVSSASMDTVTSSSSSSLSVLPSSLSVFQNPPTDVARSNPKS  
PQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGWDTDISWLTGEELHVEV  
LENVPLTTHNFVRKTFFTLAFCDFCRKLLFQGFRCQTCGYKFHQRCSTEVPLMCVNYDQLDLLFVSKFFEHHPIP  
QEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIPPFRPADEDHRNQFGQDRSSSAPNVHINTIEP  
VNIDDLIRDQGFRGDGGSTTGLSATPPASLPGSLTNVKALQKSPGPQERKSSSSSEDNRNRMKTLGRRDSSDDWE  
IPDGQITVGQRIGSGSFGTVYKGKWHGDVAVKMLNVTAPTQQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLA  
IVTQWCEGSSLYHHLHIIETKFEMIKLIDIARQTAQGM DY LHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVK  
SRWGSQHFEQLSGSILWMAPEVIRMQDKNPYSFQSDVYAFGIVLYELMTGQLPYSNINN RDQIIIFMVGRGYLSP  
DLSKVRSNCPKAMKRLMAECLKKRDERPLFPQILASIELLARS LPKIHRSA SEPSLN RAGFQTEDFS LYACASP  
KTPIQAGGYGAFPVH

FIGURE 3B

```

1 atggagcaca tacaggggagc ttggaagacg atcagcaatg gtttcggact caaagatgct
61 gtgtttgatg gctccagttg catctcccct acaattgttc agcagtttgg ctatcagcgt
121 cgggcctctg atgatggcaa actcacggat tcttctaaga caagcaatac tatccggggtt
181 ttcttgccga ataagcaaag gactgtggtc aatgtgcgga atgggatgag cttgcacgac
241 tgccttatga aagctctgaa ggttagaggc ctgcagccag agtgctgtgc agtgttcaga
301 cttcttcagg agcacaaagg taagaaagca cgcttagatt ggaacaccga cgccgcctct
361 ctgattggag aagaactgca agtggatttt ttggatcacg ttccactcac aactcacaac
421 tttgctcgga aaacgttcct gaagcttgca ttctgtgaca tctgtcaaaa gttcctgcta
481 aatggatttc gatgtcagac ttgtggctac aagtttcatg agcactgtag caccaaaagta
541 cctactatgt gtgtggactg gagtaatatc agacagctct tgctgtttcc aaattccact
601 gcaagtgaca gtggagtccc agcaccaccc tctttcacia tgcgtcggat gcgagaatct
661 gtttcccgga tgcctgctag ttcccagcac agatactcca caccocatgc cttcactttc
721 aacacctcca gcccttcctc tgaaggttcc ctgtcccaga ggcagaggtc aacgtccact
781 cccaatgtcc acatggtcag caccacctg cctgtggaca gcaggatgat tgaggatgca
841 attcgaagtc acagtgaatc agcctcacct tcagccctgt ccagcagccc caacaacctg
901 agcccaacag gctggtcaca gcccaaaacc cctgtgccag cacaagaga gagggcgcca
961 ggatctggga cccaggaaaa aaacaaaatt aggcctcgtg ggcagagaga ttcaagtatt
1021 tactgggaaa tagaagccag tgaggatgat ctgtctactc ggattggctc gggctccttt
1081 ggcactgtgt acaagggcaa gtggcatgga gatgttgca taaagatcct aaagggtggtt
1141 gacccaactc cagagcaact tcaggccttc aggaacgagg tggctgtttt gcgcaaaaca
1201 cggcattgta atatcctgct gttcatgggg tacatgacaa aggacaacct ggcgattgtg
1261 acccagtggg gtgaaggcag cagtctctac aaacacctgc atgtccagga gaccaaattc
1321 cagatgttcc agctaattga cattgcccgg cagacagctc aggggaatgga ctatttacat
1381 gcaaagaaca tcatccacag agacatgaaa tccaacaata ttttctcca tgaaggctc
1441 acggtgaaaa tcggagattt tggtttgga acagtgaagt cgcgctggag tggttctcag
1501 caggttgaac agcccactgg ctctgtgctg ttgatggccc cagaagtaat ccgaatgcag
1561 gataacaacc cgttcagctt ccagtcagat gtctactcct atggcattgt gctgtatgag
1621 ctgatgactg gggagcttcc ctactccac atcaacaacc gagaccagat catcttcag
1681 gtgggccgtg ggtacgcctc ccagatctt agcaggctct acaagaactg cccaaggca
1741 atgaagaggt tgggtggctga ctgtgtgaag aaagtcaaag aagaaaggcc tttgtttcct
1801 cagatcctgt cttccattga gctgcttcag cactctctgc cgaaaatcaa caggagcgcc
1861 tctgagcctt ccctgcacg ggcagctcac actgaggaca tcaatgcttg tacgctgacc
1921 acatccccaa ggctaccagt cttctag

```

FIGURE 3C

MEHIQGAWKTISNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDSKTSNTIRVFLPNKQRTVVNVRNG  
MSLHDCMLKALKVRGLQPECCAVFRLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHNFARKTFLKLA  
FCDICQKFLNGFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTASDSGVPAPPSFTMRMRRESVSRMP  
ASSQHRYSTPHAFTFNTSSPSSEGLSQRQRSTSTPNVHVMSTTLPVDSRMIEDAIRSHSESASPSALSSSPNNL  
SPTGWSQPKTPVPAQRERAPGSGTQEKNKIRPRGQORDSSYYWEIEASEVMLSTRIGSGSFGTVYKGKWHGDVAVK  
ILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIVTQWCEGSSLYKHLHVQETKFQMFQLIDIAR  
QTAQGMDYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLATVKSRSWGSQQVEQPTGSLWMAPEVIRMQDNNPF  
SFQSDVYSYGIVLYELMTGELPYSHINNRDQII FMVGRGYASPDLSRLYKNCPKAMKRLVADCVKVKEERPLFP  
QILSSIELLQHSLPKINRSASEPSLHRAAHTEDINACTLTTSRPLPVF

**FIGURE 3D**

```

1  atggaggggtg gctgtggaga aggcggcggc gccacgggct cgggccggag cgccgcagcg
61  gcgcgccgag cgggggagaat gagggccgaga gcgcagggcc cggactcggg gagcgcggc
121  gaggcgtccc ggctcaacct gttggacact tgcgccgtgt gccaccagaa catccagagc
181  cgggtgcccc agctgctgcc ctgcctgcac tcgttctgcc agcgtctgtt gcccgcgccg
241  cagcgtatc tcatgctgac ggcgcccgcg ctgggctcgg cagagacccc tccaccgct
301  cccgcccccg ccccgccccg gggctccccg gccggtggtc cttcgccatt cgccacccaa
361  gttggagtca ttcgatgccc agtttgagtc caagagtgtg ctgagagaca catcatagac
421  aacttttttg tgaaggacac cactgaagtt cctagtagta cagtagaaaa gtctaactag
481  gtatgtacaa gctgtgaaga caatgcagaa gctaattgggt tttgtgtaga gtgtgttgaa
541  tggctctgca agacatgtat tagagctcac cagaggggtg agttcacaaa agaccacaca
601  gtcaggcaga aagaagaagt atctccagag gcagttgggg tgaccagtca gcgaccagtg
661  ttttgtccct tccataaaaa ggagcagttg aaactttact gtgaaacatg tgataaactg
721  acctgtcag agtgcagct gctagaacac aaagaacaca ggtatcaatt tatagaagaa
781  gcttttcaga atcaaaaagt gatcatagat actctaata ccaaactgat ggaaaaaaca
841  aaatatataa agtatacagg aaatcagatc caaaatagga taattgaaat aaatcaaaac
901  caaaagcagg tggaacagga tattaaagtt gccatcttca cattgatggg ggagataaac
961  aaaaaaggga aagctctgct gcaccagctt gagaaaacac ttggtagaag agattcaagt
1021  gatgactggg agattcctga tggacagatt acagtgggac agagaattgg atctgggtca
1081  tttggaactg tctacaaggg aaagtggcat ggtgatgtgg cagtgaatat gttgaatgtg
1141  acagcaccca cacctcaaca gctacaggcc ttcaaaaatg aagtaggagt gctcaggaaa
1201  actcgacatg tgaatatcct ctttttcatt ggctattcta caaagccaca actggcaatt
1261  gttacacagt ggtgtgaggg ctccagctta tatcaccatc tccacatcat tgagacccaa
1321  tttgagatga tcaaacttat agatattgct cggcagactg cacagggcat ggattactta
1381  cagcceaagt caatcatcca cagagacctc aagagtaata atatatctt tcatgaagac
1441  ctcacggtaa aaataggtga ctttgggtcta gccacagtga aatctcgggt gagtgggtcc
1501  catcagtttg aacagttgtc tggatctatt ttgtggatgg caccagaagt aatcagaatg
1561  caagataaaa acccgatatag ctttcagtca gatgtgtatg cgtttgggat tgttctgtac
1621  gaactgatga ccggccagct acctatttca aacatcaaca acagggatca gataattttt
1681  atggtgggac gaggatacct atctccagat ctcatgaagg tacggagtaa ctgtccaaaa
1741  gccatgaaga gattaatggc agagtgcctc aaaaagaaaa gagacgagag accactcttt
1801  ccccaaattc tcgcctccat tgagctgctg gcccgctcat tgccaaaaat tcaccgcagt
1861  gcatcagaac cttccttgaa tcgggctggg ttccaaacag aagattttag tctgtatgct
1921  tgtgcttctc cgaaaacacc catccaagca gggggatatg gtgggtttcc agtccactga

```

FIGURE 3E

MEGGCGEGGGGTGSGRSAAAARRAGMRPRAQGPDESSESGGEASRLNLLDTCVCHQNIQSRVPKLLPCLHSFCQR  
CLPAPQRYLMLTAPALGSAETPPPAPAPAPAPGSPAGGPPFATQVGVIRCPVCSQECAERHIIDNFFVKDTTEV  
PSSTVEKSNQVCTSCEDNAEANGFCVECWEWLCKTCIRAHQRVKFTKDHTVRQKEEVSPEAVGVTSQRPVFCPFH  
KKEQLKLYCETCDKLTCDLLEHKEHRYQFIEEAFQNKVIIDTLITKLMEKTKYIKYTGNIQNRIEINQN  
QKQVEQDIKVAIFTLMEINKKGKALLHQLEKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKGKWHGDVAV  
KMLNVTAPTQQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIETKFEMIKLIDIA  
RQTAQGM DY LHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVKSRSWSHQFEQLSGSILWMAPEVIRMQDKNP  
YSFQSDVYA F G I V L Y E L M T G Q L P Y S N I N N R D Q I I F M V G R G Y L S P D L S K V R S N C P K A M K R L M A E C L K K K R D E R P L F  
PQILASIELLARS L P K I H R S A S E P S L N R A G F Q T E D F S L Y A C A S P K T P I Q A G G Y G G F P V H

FIGURE 3F

	10	20	30	40	50	60	70	80
Human	ATGGCGGCGCTGAGCGGTGGCGGTGGTGGCGGCGGGAGCCGGGCCAGGCTCTGTTCAACGGGGACATGGAGCC-CGAGG							
Rat	-----ATGGA-----GC-----ACAT--ACAGGGAGCT-TGGAA							
Mouse	-----ATGGA-----GGGTGGCTGTGGAG							
			***				*	**
Prim.cons.	ATGGCGGCGCTGAGCGGTGGCGGTGGTGGCGGCATGGAGCCGGGCCAGGCTCTGTTCAAC22GGACAGGGAGCTGTGGAG							
	90	100	110	120	130	140	150	160
Human	CCGGCGCGCGGCCCGCGGCTCTTCGGCTCGCGACCTGCCATTCCGGAGGAGGTGTGAATATCAAAACAAATGATT							
Rat	-----GACGATCAGCAA-----TGGTTTCGGAC-----TCAA-----							
Mouse	A-----AGCGG-CGGCGGCA-----CGGCTCCGGC-----CGGA-----							
		***	*	*	*	*	*	*
Prim.cons.	2CGGCGCC2G3CGG2C3GCGG2TCTTCGG3TTCGGACCTGCCATTCCGGAGGAGGTGTGAATATCAAAACAAATGATT							
	170	180	190	200	210	220	230	240
Human	AAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGGGAGCATAATCCACCATCAATATATCTGGAGGC							
Rat	-----G-----ATG-----CTGT-----GTTTGATGG-----CT-CCAGTTGCATCTCC-----C							
Mouse	-----GCG-----CCGC-----AGCGGCG-----CGCCGAGCGGGGAGAATG-AGGC							
			*		**		*	*
Prim.cons.	AAGTTGACACAGGAACATGTAGAGGCCCTGTTGGACAA2TTGGTGG2GAGCATAATC32CCAGC3G3AT3TCTGGAGGC							
	250	260	270	280	290	300	310	320
Human	CTATGAAGAATACACCAGCAAGCTAGATGCACTCCAACAAGAGAACAACAGTTATTGGAATCTCTGGGGAACGGAACCTG							
Rat	CTAC-----AATTGTTACGAGTTTGGCTAT-----CAGCG-----TCGGGCTCTGATGA-TGGCA--							
Mouse	CGAGAGCGCAGGGCCCG--ACTCGGAGAG-----CGGCGG-----CGAGGCGTCC-----CGGCTC--							
	*	*	*	*	*	*	*	*
Prim.cons.	CTA3222GAAT3G3CCAGCAA3TTGGATA3ACTCCAACAAGAGAACAACAGCGTTATTGGGGCTCTG22GAACGGCACTG							
	330	340	350	360	370	380	390	400
Human	ATTTTCTGTTTCTAGCTCTGCATCAATGGATACCGTTACATCTTCTTCTCTTCTAGCCTTTCAGTGCTACCTTCATCT							
Rat	-----AACTC-----ACGGAT-----TCTTCTAA-----							
Mouse	-----AACCT-----GTTGGACA-----CTTGCGCC-----							
		*	*	***		***		
Prim.cons.	ATTTTCTGTTTCTAACTCTGCATC2ATGGATACCGTTACATCTTCTTCTCTTCTA3CCTTTCAGTGCTACCTTCATCT							
	410	420	430	440	450	460	470	480
Human	CTTTCAGTTTTCAAAATCCACAGATGTGGCAGGAGCAACCCCAAGTACCACAAAAACCTATCGTTAGAGTCTTCCT							
Rat	-----GACA-----AGCAA-----TACTATCCGGGTTTCTT							
Mouse	-----GTGTGCCAC-----CAG-----AACATCCAGACCGGGT							
		*	*	*	*	*	*	*
Prim.cons.	CTTTCAGTTTTCAAAATCCACAG2TGTG3CAGGAGCAACCCCAAGTACCACAAAAACCTA3CATCCGGGTCTTC3T							
	490	500	510	520	530	540	550	560
Human	GCCCAACAACAGAG--GACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAAGAAAGCACTGATGAT							
Rat	GCCGAATAAGCAAAG--GACTGTGGTCAATGTGCGGAATGGGATGAGCTTGACGACTGCCTTATGAAGCTCTGAAGGT							
Mouse	GCCCAAGCTGCTGCCCTGCCTGCCTGCACTCGTTCTGCC-AGCGCTGTTTGCCCGCGCCGAGCGCTAT-----CTCATGCT							
	***	*	*	*	*	*	*	*
Prim.cons.	GCCCAA3AAGCAGAGCTGACTGTGGCT33TGTGCGGAGTGG3GTTAGC3TGCGCGACAGCCTTATGAAAGC2CTGATG3T							
	570	580	590	600	610	620	630	640
Human	GAGAGGTCTAATCCAGAGTGTGTGCTGTTTACAGAATTC-----AGGATGGAGAGAAGAAACCAA--TTGGTTGGG							
Rat	TAGAGGCTGCAGCCAGAGTGTGTGCACTGTTTACAGACTTCTTCAGGAGCACAAGGTAAGAAAGCAGCTTAGATTGGA							
Mouse	GA-----CGGCGCCC--GCGCTGGGCTCGGCAGAGACCCCTCCACCGCTCCCGCCCCCGCCCCGCTCC							
	*	*	*	*	*	*	*	*
Prim.cons.	GAGAGG2CTGC3CCCAGAGTGTGTGCTGTGTACAGACTTCT2CA22AGCAC33AG33AAGAAACACGC2T3GGTTGG3							
	650	660	670	680	690	700	710	720
Human	ACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGT-GGAAGTGTGGAGAATGTTCCACTTACAACACACAACCTT							
Rat	ACACCGACGCCGCTCTCTGATTGGAGAAGAACTGCAAGT-GGATTTTTTGGATCAGGTTCCACTCACAACCTCACAACCTT							
Mouse	CGGCCGGTGGTCTTCGCC-ATTCGCCA-----CCCAAGTTGGAGTCATTCTGA---TGCCAGTTTGAG-TCAAGAGTG							
	*	*	*	*	*	*	*	*
Prim.cons.	ACACCGATG3T3CCTCGCT2ATTGGAGAAGAA2TGCAAGTTGGA3TT3TTGGA22ATGTTCCACTTACAACCTCACAACCTT							
	730	740	750	760	770	780	790	800
Human	TGTACGAAAAACGTTTTTCACCTTAGCATTTTGTGACTTTTGTGCG--AAAGCTGCTTTTCCAGGGTTTCCGCTGTCAAA-							

FIGURE 4A



Rat	TGCTCGGAAAACGTTCTGAAGCTTGCACTTCTGTGACATCTGTCA--AAAGTTCCTGCTAAATGGATTTTCGATGTCAGA-
Mouse	TGCT-GAGAGACACATCATAGACAACCTTTTGTGAAGGACCACTGAAGTTCCTAGTAGTACAGTAGAGAAAAGTCTAAT
Prim.cons.	TGCTCGAAAACGTTTCT3A33CTAGCATTTTGTGAC3T3TGCTACTAAAGTTCCT33TA3A3GG3TT3CGATGTCAAAT
	810 820 830 840 850 860 870 880
Human	CATGTGGTTATAAATTTACCAGCGTTGTAGTACAGAAGTTCC-ACTGATGTGTGTTAATTATGACCAAC-TTGATTTGC
Rat	CTTGTGGCTACAAGTTTCATGAGCACTGTAGCACCAGTACCTACT-ATGTGTGTGGACTG-GAGTAATATCAGACAGC
Mouse	CAGGTATGTACAAGCT--GTGAAGAC--AATGCAGAAG-----CTAATGGGTTTTGTGTA-GAGTG-TGTTGAATGGC
Prim.cons.	CATGTGG3TACAAGTTTCATGAGCACTGTAGTACAGAAGT2CCTACT2ATGTGTGTTGA3TATGAGTAAT2TTGAAT3GC
	890 900 910 920 930 940 950 960
Human	TGTT-----TGTCTCCAAGTTCTTTGAACACCACCCCAATACCACAGGAAGAGGCGTCTTAGCAGAGACTGCCCTAAC
Rat	TCTTGC-----TGTTTCCAAATT-----CCACTGCAA--GTGAC--AGTGGAG--TCCCAGC
Mouse	TCTGCAAGACATGTATTAGAGCT-----CACCAGAG-----GGTGAAGT--TCACAAA
Prim.cons.	TCTT22AGACATGT3TCCAAGTTCTTTGAACACCACCCCAATACCAC3GGAAGAGG2G2CCTTAGTGGAG2CTGTCCCAAC
	970 980 990 1000 1010 1020 1030 1040
Human	ATCTGGATCATCCCCTTCCGCAC-----CCGCCTCGGACTCTA---TTGGGCC--CCAAATTTCTCACCAGT---
Rat	A-----CCACCCTCTTTACAAA-----T-GCGTCGGATGCGAGAATCTGTTTC--CCGGATGCCTGCTAGTTC-
Mouse	A----GACCACACAGTCAGGCAGAAAGAAGATATCTCCAGAGGCAG---TTGGGGTGACCATGCAGCGACCAAGTGT
Prim.cons.	ATCTGGACCACCC3CTT3CGCA3AAAGAAGAAGT2GC3TCGGA3GC3AGAATTTGGG3CGACCAGAT3CC3ACCAGT22T
	1050 1060 1070 1080 1090 1100 1110 1120
Human	CCGTCTC-----CTTCAAAAT-----CCAT-----TCCAATTCACAGCCCTT-CCGACCAGCAGATGAAGATCATCG
Rat	CCAGCACAGATACTCCACACC-----CCATGC--CTTCACTTTCA-ACACCTC-CAGCCCTTCTCTGAAGGTTCCCT
Mouse	TTGTCCC-----TTCCATAAAAGGAGCAGTTGAACTTTACTGTGAAACATGTGATAAACTGACCTGTGAGATGCGCA
Prim.cons.	CCGTC3CAGATACTCCA3AA3AAGAGGCCAT22AACTTCACTTTCA2ACACCT3ACAGACC33CCT3TGAAGATT3CC3
	1130 1140 1150 1160 1170 1180 1190 1200
Human	A-AATCAATTTGGGCAACGAGACCGATCCTCATCAGCTCCCAA-----TGTGCATA--TA---AAC-ACAATAGAACC
Rat	G-TCCCAG---AGGCA--GAGGTCAA---CGTCCACTCCCAA-----TGTCCACA--TGGTCAGC-ACCACCCTGCC
Mouse	GCTGCTAGA--ACACAAAGAACACAG--GTATCAATTTATAGAAGAAGCTTTTCAGAATCAAAAAGTGATCATAGATAC
Prim.cons.	GCT3CCAG2TTAGGCAA2GAG33CAATCC2CATCAACTCCCAAAAGAAGCTGT3CA3AATTA22AGCGACCATAGA3CC
	1210 1220 1230 1240 1250 1260 1270 1280
Human	TGTCAATATTGATGACTTGATTAGAGACCAAGGA-TTTCGTGGT-GATGGAGGATCAACCACAGGTT---TGTCTGCTA
Rat	TGTGGACAGC-AGGA--TGATTGAGGAT---GCA-ATTGGAAGT-CACAGTGAATCAGCCTCACCT---CAGCC-CTG
Mouse	TCTAATCACC---AACTGATGGAAAAAACAATATATAAGTATACAGGAATCAGATCCAAAATAGGATAATTGAAA
Prim.cons.	TGT3AACA3CGA2GA22TGATTGAAGA322AG3ATATTCGAAGTA3ACAG3GAATCAGCC3CA33TTAGGATA3CTGCTA
	1290 1300 1310 1320 1330 1340 1350 1360
Human	CCCCCTGCCTCATTACCTG-GCTCACTAA-CTAACGTGAAAGCCTTACAGAAATCTCCA-----GGACCTCA-GCGAG
Rat	TCCAGCAGCCCAACAACCTGAGCCCAACAGGCTG--GTCACAGCC---C---AAAACCCCT-----GTGCCAGC-ACAAA
Mouse	TAAATCAAAACCAA-AAGCAG-GTGAACAGGATA--TTAAAGTT--GC---CATCTTCACATTGATGGTGGAGATAAA
Prim.cons.	TCCA3CA33CCCAA2AACCTGAGC3CAACAGGCTAACGT3AAAGCCTT2CAGAAATCTCCACATTGGTGCC3GAGACAAA
	1370 1380 1390 1400 1410 1420 1430 1440
Human	AAAGGAAGTCATCTTCATCCTCAGAAGACAGGAATCGAATGAAAACA--CTGGTAGACGG---GACTCGAGTGATGATT
Rat	GAGAGAGGGCGCCAGGATCT--GGGACCCAGGAAAAAACAATTAGGCCTCGTGGGCAGAGAGATTCAAGTTATTACT
Mouse	CAAAAAAGGGA--AAGCTCT--GC-TGCACAGCTTGA-GAAAACA--CTGGTAGAAGA--GATTCAAGTGATGACT
Prim.cons.	3AAAGAAGGCA2CA3GATCTTTC2G3A33CAGGAA333A2GAAACAGGCTTGGTAGACGGAGAGATTCAAGTGATGACT
	1450 1460 1470 1480 1490 1500 1510 1520
Human	GGGAGATTCTGATGGGCAGATTACAGTGGGACAAGAATTGGATCTGGATCATTTGGAACAGCTACAAGGGAAAGTGG
Rat	GGGAAATAGAAGCCAGTGAGGTGATGCTGTCTACTCGGATTGGCTCGGGCTCCTTTGGCACTGTGTACAAGGGCAAGTGG
Mouse	GGGAGATTCTGATGGACAGATTACAGTGGGACAGAGAATTGGATCTGGGTCATTGGAAGTGTCTACAAGGGAAAGTGG
Prim.cons.	GGGAGATTCTGATGG3CAGATTACAGTGGGACA3AGAATTGGATCTGG3TCATTGGAAGTGTCTACAAGGGAAAGTGG

FIGURE 4B

	1530	1540	1550	1560	1570	1580	1590	1600
Human	CATGGT	GATGTGGCAGT	GAAATGTTGAAT	GTGACAGC	ACCCTACACCT	CAGCAGT	TACAAGCCTT	CAAAATGAAGTAGG
Rat	CATGGAGAT	GTTGCAGTAAAGAT	CCCTAAAGGTGGTTGACCCAACT	CCAGAGCAACT	TCAGGCCTT	CAGGAACGAGGTGGC		
Mouse	CATGGT	GATGTGGCAGT	GAAATGTTGAAT	GTGACAGC	ACCCTACACCT	CAACAGCTACAGGCCTT	CAAAATGAAGTAGG	
Prim.cons.	CATGGT	GATGTGGCAGT	GAAATGTTGAAT	GTGACAGC	ACC3ACACCT	CAGCAGT	TACAGGCCTT	CAAAATGAAGTAGG
	1610	1620	1630	1640	1650	1660	1670	1680
Human	AGTACT	CAGGAAACACGACAT	GTGAATATCCTACT	CTTTCATGGGCTAT	TCCACAAAGCCACAAC	-TGGCTATT	GTTTACC	
Rat	TGTTTT	GCGCAAAACACGGCAT	GTTAATATCCTGCT	GTTCATGGGGTACAT	GACAAAGG-ACAACCT	GGCGATT	GTGACC	
Mouse	AGTGCT	CAGGAAACTCGACAT	GTGAATATCCTCTTTT	CATGGGCTATTCTACAAAGCCACAAC	-TGGAATT	GTTTACA		
Prim.cons.	AGT3CT	CAGGAAACACGACAT	GTGAATATCCT3CT3	TTCATGGGCTATT	T3ACAAAGCCACAACCT	GGC3ATT	GTTTACC	
	1690	1700	1710	1720	1730	1740	1750	1760
Human	CAGTGGT	GTGAGGGCTCCAGCT	TGTATCACCAT	CTCCATATCATTGAGACCAAA	TTTGAGAT	GATCAAACTT	TATAGATAT	
Rat	CAGTGGT	GTGAAGGCAGCAGT	CTCTACAAACACCTGCAT	GTCCAGGAGACCAAA	TTCCAGAT	GTTCCAGCTAATT	GACAT	
Mouse	CAGTGGT	GTGAGGGCTCCAGCT	TATATCACCAT	CTCCACATCATTGAGACCAAA	TTTGAGAT	GATCAAACTT	TATAGATAT	
Prim.cons.	CAGTGGT	GTGAGGGCTCCAGCTT	3TATCACCAT	CTCCATATCATTGAGACCAAA	TTTGAGAT	GATCAAACTT	TATAGATAT	
	1770	1780	1790	1800	1810	1820	1830	1840
Human	TGCACG	CAGACTGCACAGGGCAT	TGGATTACTTACACGCCAAGT	CAATCATCCACAGAGACCT	CAAGAGTAATA	TATATAT		
Rat	TGCCCG	CAGACAGCTCAGGGAATGGACT	ATTACATGCAAAAGAACAT	CATCCACAGAGACAT	GAAATCCAACAAT	TATAT		
Mouse	TGCTCG	CAGACTGCACAGGGCAT	TGGATTACTTACACGCCAAGT	CAATCATCCACAGAGACCT	CAAGAGTAATA	TATATAT		
Prim.cons.	TGC3CG	CAGACTGCACAGGGCAT	TGGATTACTTACACGCCAAGT	CAATCATCCACAGAGACCT	CAAGAGTAATA	TATATAT		
	1850	1860	1870	1880	1890	1900	1910	1920
Human	TTCTTC	CATGAAGACCTCACAGT	AAAAATAGGTGATTTTGGT	CTAGCTACAGT	GAAATCTCGAT	TGGAGTGGGT	TCCATCAG	
Rat	TTCTCC	CATGAAGCCCTCACGGT	GAAATCGGAGATTTTGGT	TTGGCAACAGT	GAAAGTCGCGCT	TGGAGTGGGT	TCTCAGCAG	
Mouse	TTCTTC	CATGAAGACCTCACGGT	AAAAATAGGTGATTTTGGT	CTAGCTACAGT	GAAATCTCGAT	TGGAGTGGGT	TCCATCAG	
Prim.cons.	TTCTTC	CATGAAGACCTCACGGT	AAAAATAGGTGATTTTGGT	CTAGC3ACAGT	GAAATCTCG3T	TGGAGTGGGT	TCCATCAG	
	1930	1940	1950	1960	1970	1980	1990	2000
Human	TTTGAAC	AGTTGTCTGGAT	CCATTTTGTGGAT	TGGCACCAGAAGT	CATCAGAAT	GCAAGATAAAAA	TCCATACAGCTTT	CA
Rat	GTTGAAC	AGGCCACTGGCT	CTGTGCTGTGGAT	TGGCCCAAGTAAT	CCGAATGCAGGATA	ACAACCCGT	TACGTTCCA	
Mouse	TTTGAAC	AGTTGTCTGGAT	CTATTTTGTGGAT	TGGCACCAGAAGT	ATCAGAAT	GCAAGATAAAAA	CCCGTATAGCTTT	CA
Prim.cons.	TTTGAAC	AGTTGTCTGGATCTATTTT	TGTGGAT	TGGCACCAGAAGT	ATCAGAAT	GCAAGATAAAAA	CCCGTACAGCTTT	CA
	2010	2020	2030	2040	2050	2060	2070	2080
Human	GTCAGAT	GTATATGCATTTGGGAT	TGTTCTGTATGAATT	GATGACTGGACAGTT	TACCTTATTCAAACAT	CAACAACAGGG		
Rat	GTCGAT	GTCTACTCCTATGGCATT	TGTGCTGTATGAGCT	GATGACTGGGGAGCTT	CCCTACTCCCACAT	CAACAACAGG		
Mouse	GTCAGAT	GTGTATGCGTTTGGGAT	TGTTCTGTACGAAT	GATGACCGCCAGCT	TACCTTATTCAAACAT	CAACAACAGGG		
Prim.cons.	GTCAGAT	GT3TATGC3TTTGGGAT	TGTTCTGTATGAAT	GATGACTGG3CAGCT	TACCTTATTCAAACAT	CAACAACAGGG		
	2090	2100	2110	2120	2130	2140	2150	2160
Human	ACCAGATA	AATTTTATGGTGGGAC	GAGGATACCTGTCT	CCAGATCTCAGTAAGGT	ACGGAGTA	ACTGTCCAAAAGCCATG		
Rat	ACCAGAT	CATCTTCATGGTGGGCGT	GGGTACGCTCCCCAGAT	CTTAGCAGGCTCTACAAGAACT	GCCCCAAGGCAATG			
Mouse	ATCAGATA	AATTTTATGGTGGGAC	GAGGATACCTTCTCCAGAT	CTCAGTAAGGTACGGAGT	AACTGTCCAAAAGCCATG			
Prim.cons.	ACCAGATA	AATTTTATGGTGGGAC	GAGGATACCT3TCTCCAGAT	CTCAGTAAGGTACGGAGT	AACTGTCCAAAAGCCATG			
	2170	2180	2190	2200	2210	2220	2230	2240
Human	AAGAGATTA	AATGGCAGAGTGCCT	CAAAAAGAAAAGAGAT	GAGAGACCACTCTTTCCCAA	AATTCTCGCCT	TCTATTGAGCT		
Rat	AAGAGGT	TGGTGGCTGACTGTGT	GAAAGTCAAAGAAAGAGCC	TTTGTTCCTCAGAT	CTGTCTTCCATT	GAGCT		
Mouse	AAGAGATTA	AATGGCAGAGTGCCT	CAAAAAGAAAAGAGAGACCACT	CTTTCCCAA	AATTCTCGCCT	TCTATTGAGCT		
Prim.cons.	AAGAGATTA	AATGGCAGAGTGCCT	CAAAAAGAAAAGAGA3GAGAGACCACT	CTTTCCCAA	AATTCTCGCCT	TCTATTGAGCT		
	2250	2260	2270	2280	2290	2300	2310	2320
Human	GCTGGCC	CGCTCATTGCCAAAAT	TACCGCAGTGCAT	CAGAACCTCCTTGAAT	CGGGCTGGTTT	CCAAACAGAGGATT		

FIGURE 4C

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Rat      GCTTCAGCACTCTCTGCCGAAAATCAACAGGAGCGCCTCTGAGCCTTCCCTGCATCGGGCAGCT---CACACTGAGGACA
Mouse    GCTGGCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCTTCCTTGAATCGGGCTGGTTTCCAAACAGAAGATT
***      * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Prim.cons. GCTGGCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCTTCCTTGAATCGGGCTGGTTTCCAAACAGAGGATT

          2330      2340      2350      2360      2370      2380      2390
          |        |        |        |        |        |        |
Human     TTAGTCTATATGCTTGTGCTTCTCCAAAAACACCCATCCAGGCAGGGGGATATGGTGCGTTTCCTGTCCACTGA
Rat       TCA-----ATGCTTGTACG---CTGACCACATCC--CCA-----AG-----GCTACCAGTCTTCTAG
Mouse     TTAGTCTGTATGCTTGTGCTTCTCCGAAAAACACCCATCCAAGCAGGGGGATATGGTGGGTTTCCAGTCCACTGA
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Prim.cons. TTAGTCT2TATGCTTGTGCTTCTCCGAAAAACACCCATCCA2GCAGGGGGATATGGTG2GTTTCCAGTCCACTGA

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Alignment data :  
Alignment length : 2394  
Identity (\*) : 976 is 40.77 %  
Strongly similar (:) : 0 is 0.00 %  
Weakly similar (.) : 0 is 0.00 %  
Different : 1418 is 59.23 %  
Sequence 0001 : Human ( 2298 residues).  
Sequence 0002 : Rat ( 1947 residues).  
Sequence 0003 : Mouse ( 1980 residues).

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CLUSTALW options used :  
dnamatrix=iuB  
endgaps=1  
gapdist=8  
gapext=0.05  
gapopen=10.0  
ktuple=1  
maxdiv=40  
outorder=aligned  
pairgap=3  
score=percent  
topdiags=5  
type=DNA  
window=5

FIGURE 4D

	10	20	30	40	50	60	70	80
Human	ATGGCGGC--GCTGAGCGGTGGCGGTGGTGGCGGCGGAGCCGGGCCAG-GCTCTGTTCAACGG-----GGACATGGA							
Mouse	ATGGAGGTGGCTG--TGGAGAAGGCGGCGGCGGCGGCGGCTCCGGCCGGAGCGCCG--CAGCGCGCGCCGAGCGGGGA							
	**** *							
Prim. cons.	ATGG2GG2TGGCTGAG2GG2G22GG2GG2GGCGGC2CGG222C2GGCC2GAGC2C2GTTCA2CGGCGCGCCG22C22GGA							
	90	100	110	120	130	140	150	160
Human	GCCCCGAGGCCGCGCCGCGGCGGCGGCTCTTCGGCTGCGGACCCTGCCATTCCGGAGGAGGTGTGGAATATCAAAC							
Mouse	GAATGAGGCCGAGAGCGCAGGGCCCG-GACTCGGAGAGCGGCGG--CGAGGCGTCCC-----GGCTCAACCTGTGGAC							
	* *							
Prim. cons.	G222GAGGCCG222CG222GGCCGCG2C222222GC2GCGGACC22G2C2T2CCGGAGGAGG222222T2T222AC							
	170	180	190	200	210	220	230	240
Human	AAATGATTAAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGGAGCATAATCCACCATCAATATAT							
Mouse	ACTTGCGCCGTGTGCCACCAGAATCCAGAG--CC-----GGGTGCCAAGCTGCTGCC---TGC							
	* *							
Prim. cons.	A22TG222222TG2CAC22GAACAT22AGAGGCCCTATTGGACAAATTTGGTGGGG2GC22AA2C22C222C2ATAT22							
	250	260	270	280	290	300	310	320
Human	CTGGAGGCCATGAAGAATACACCAGCAAGCTAGATGCACTCCAACAAGAGAACAACAGTTATTGGAATCTCTGGGGAA							
Mouse	CTGCA--CTCGT-----TCTGCCAGC--GCTGTTTGCCCGC-----GCCGCAGCGCT---ATCTCATGCTGA							
	* *							
Prim. cons.	CTG2AGGC222TGAAGAAT222CCAGCAAGCT222TGC2C2CCAACAAGAGA2C22CAG222TTGGAATCTC22G222A							
	330	340	350	360	370	380	390	400
Human	CGGAAGTATTTTCTGTTCTAGCTCTGCATCAATGGATACCGTTACATCTTCTTCTTCTAGCCTTTCAGTGCTAC							
Mouse	CGGCGC-----CCGCGCTG--GGCTCGGCA-----GAGACCCCTCCACCCGCTCCC-----GCC-----CCGC							
	* *							
Prim. cons.	CGG22CTGATTT222G2T2CT2GCTC2GCATCAATGGA2ACC22T2CA2C22CT2CCTCTTCTAGCC2TTCAGTGCC22C							
	410	420	430	440	450	460	470	480
Human	CTTCATCTCTTTCAGTTTTTCAAATCCACAGATGTGGCAGGAGCAACCCCAAGTCACCACAAAACCTATCGTTAGA							
Mouse	CCCCGCC---GGGCTCCCCG---C-CG-----GTGGTCTTCGCCATT---GCCACC-CAA-----GTTGGA							
	* *							
Prim. cons.	C22C22C2CTT22G2T222C22AATCCC2CAGATGTGG22C22GC2A22CCAAG2CACCACAAAACCTATCGTT2GA							
	490	500	510	520	530	540	550	560
Human	GTCTTCC--TGCCCAACAACAGAGGACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCT-----AAA							
Mouse	GTCATTGATGCCAGTTTGCAGTCAAGAGTG--TGCTG-----AGAGACACA-TCATAGACAACCTTTTGTGAAG							
	* *							
Prim. cons.	GTC2T2CGATGCCA22222CAG222A2AGTGGT22CTGCAAGGTGT2GAG22ACAGTC22AGACA222TTTTTGTGA2							
	570	580	590	600	610	620	630	640
Human	GAAAGCACTGATGATGAGAGGTCTAATCCCAGAGTGTGTGCTGTTTACAGAATTCAGGATGGAGAGAAGAAACCAATTG							
Mouse	GACACCACTGAAGTT-----CCTAGT-----AGTACAGTA-----GAAAAGTCTAATCAGGTATGTACAAGCT-----							
	* *							
Prim. cons.	GA2A2CACTGA2G2TGAGAGG2CTA2TCCCAGAGT2C2GT2CTGTTT22A2A2T22A222GG22G2A2AA2C2AATTG							
	650	660	670	680	690	700	710	720
Human	GTTGGGACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGTGGAA-GTGTGGAGAATGTCCACTTACAACACA							
Mouse	GTGAAGACAATG-----CAGAAGCTAATGGG-----TTTGTGTAGAGTGTGTG---AATGGCTC--T-GCAAGACA							
	* *							
Prim. cons.	GT222GACA2TGATATTT222222A2TGG2GAAGAATT222TGT2GA2TGTGTGGAGAATG222CACTT2CAA2ACA							
	730	740	750	760	770	780	790	800
Human	CAACTTTGTACGAAAAACGTTTTTCACCTTAGCATTTTGTGACTTTTGTGCGAAAGCTGCTTTTCCAGGGTTTCCGCTGTC							
Mouse	-----TGTATTAGAG-----CTCACCAGAGG-----GTGAAGTTCA-CAAAAG--A-----CCA-----CACAGTC							
	* *							
Prim. cons.	CAACTTTGTA22A2A2ACGTTT2TCACC22AG2ATTTTGTGA22T2T2C2AAAGCT2CTTTTCCAGGGTTTCC2C2GTC							
	810	820	830	840	850	860	870	880
Human	AAACATGTGGTTATAAATTTACCCAGCGTTGTAGTACAGAAGTCCACTGATGTGTGTTAATTA-TGACCAACTTGATTT							
Mouse	AGGCA-GAAAGAAGAAGTATCTCCAGAG--GCACT-----TGGGGTG-ACCAGTCAGCGACCAG-----TGT							
	* *							

FIGURE 5A

Prim. cons. A22CATG2222A2AA2T2TC2CCAG2GTTG2AGTACAGAAAGTTCCACTG22GTGT22A2T2AG2GACCA2CTTGAT2T

890 900 910 920 930 940 950 960

Human GCTGTTTGTCTCCAAGTTCTTTGAACACCACCAATACCACAGGAAGAGCGCTCTTAGCAGAGACTGCCCTAACATCTG

Mouse ---TTTGTCCC-----TTCCATAAAAGGAGC-----AGTTGAACTTTACTG-----TG

Prim. cons. GCTGTTTGTCTCCAAGTTCTTTGAACACCACCAAT2CCA2A2AAG22GCGTCTTAG22GA2ACT222CT2ACATCTG

970 980 990 1000 1010 1020 1030 1040

Human GATCATCCCCTTCCGCACCCGCTCGGACTCTATTGGGCCCAAATTCTCACCAGTCCGTCTCCTTCAAAATCCATTCCA

Mouse AAACAT-----GTGATAAACT--GAC-CTGTGAGAC-----T-----GCCAG--C---TGCT--AGAACACA---A

Prim. cons. 2A2CATCCCCTTCCG22222CTCGGACTCT2T2G2GCCAAATTCTC2CCAGTCCGTCT2CTTCA2AA22CATTCCA

1050 1060 1070 1080 1090 1100 1110 1120

Human ATTCCACAGCCCTTCCGACCAGCAGATGAAGATCATCGAAATCAATTTGGGCAACGAGACCGATCCTCATCAGCTCCCAA

Mouse AGAACACAGG--TATCAATTTATAGAAGAGCTTTTCAGAAATCAAA--AAGTGATCATAGATACTCTAATCA---CCAA

Prim. cons. A222CACAG2CCT22C2A2222AGA2GAAG2T2T2C2AATCAA2TT2G2A2A2A2A22A22CT2ATCAGCTCCCAA

1130 1140 1150 1160 1170 1180 1190 1200

Human TGTGCATATAAACACAATAGAACCTGTCAA---TATTGATGACTTGATTAGAGACCAAGGATT-TCGTGGTGATGGAGGA

Mouse ACTG---ATGGAAAAACAAAATATATAAAGTATACAGGAAATCAGATCCAAAT--AGGATAATTGAAATAAATCAAAA

Prim. cons. 22TGCATAT22A2A2A2A2A22T2T2AAGTATA22G22A222GAT222A2A2CAAGGAT2AT2G222T2A22A22A

1210 1220 1230 1240 1250 1260 1270 1280

Human TCAACCACAGGTTTGTCTGC-TACCCCCCTGCCTCATTACCTGGCTCACTAACTAACGTGAAAGCCTTACAGAAATCTC

Mouse CCAAAAGCAGGTGGAACAGGATATTAAGTTGCC--A---TCT---TCAC--ATTGATG-----GT-----GGAGATA--

Prim. cons. 2CAA222CAGGT222C2G2ATA22222TGCTCATT2CTGGCTCACTAA2T2A2GTGAAAG2CTTAC2GA2AT2TC

1290 1300 1310 1320 1330 1340 1350 1360

Human CAGGACCTCAGCGAGAAAGGAAAGTCATCTTCATCCTCAGAAGACAGGAATCGAATGAAACACTTGGTAGACGGGACTCG

Mouse -----AACAAAAAGGAAAGCTCTGCTGCACCCAG-----C-----TTGA--GAAACACTTGGTAGAAGAGATTCA

Prim. cons. CAGGACCTCA2C2A2AAAG2A2222TCT2C22C2CAGAAGAC2GGAAT2GAATGAAACACTTGGTAGA2G2GA2TC2

1370 1380 1390 1400 1410 1420 1430 1440

Human AGTGATGATTGGGAGATTCTGTATGGGACAGATTACAGTGGGACAAAGAATTGGATCTGGATCATTGGAACAGTCTACAA

Mouse AGTGATGACTGGGAGATTCTGTATGGACAGATTACAGTGGGACAGAGAATTGGATCTGGGTCAATTGGAACGTCTACAA

Prim. cons. AGTGATGA2TGGGAGATTCTGTATGG2CAGATTACAGTGGGACA2AGAATTGGATCTGG2TCAATTGGAAC2GCTCTACAA

1450 1460 1470 1480 1490 1500 1510 1520

Human GGGAAAGTGGCATGGTGATGTGGCAGTGAAATGTTGAATGTGACAGCACCTACACCTCAGCAGTTACAAGCCTTCAAAA

Mouse GGGAAAGTGGCATGGTGATGTGGCAGTGAAATGTTGAATGTGACAGCACCCACCTCAACAGCTACAGGCCCTTCAAAA

Prim. cons. GGGAAAGTGGCATGGTGATGTGGCAGTGAAATGTTGAATGTGACAGCACCTACACCTCA2CAG2TACA2GCCTTCAAAA

1530 1540 1550 1560 1570 1580 1590 1600

Human ATGAAGTAGGAGTACTCAGGAAAACACGACATGTGAATATCCTACTCTTCATGGGCTATTCCACAAAGCCACAAGTGGCT

Mouse ATGAAGTAGGAGTGCTCAGGAAAACGACATGTGAATATCCTCTTTTCATGGGCTATTCTACAAAGCCACAAGTGGCA

Prim. cons. ATGAAGTAGGAGT2CTCAGGAAAAC2CGACATGTGAATATCCT2CT2TTCATGGGCTATT2CACAAGCCACAAGTGGC2

1610 1620 1630 1640 1650 1660 1670 1680

Human ATTGTTACCCAGTGGTGAGGGCTCCAGCTTGATACCATCTCCATATCATTGAGACCAAATTTGAGATGATCAAAC

Mouse ATTGTTACACAGTGGTGAGGGCTCCAGCTTATATACCATCTCCACATCATTGAGACCAAATTTGAGATGATCAAAC

Prim. cons. ATTGTTAC2CAGTGGTGAGGGCTCCAGCTT2ATACCATCTCCA2ATCATTGAGACCAAATTTGAGATGATCAAAC

1690 1700 1710 1720 1730 1740 1750 1760

Human TATAGATATTGCACGACAGACTGCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTA

Mouse TATAGATATTGCTCGGACAGACTGCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTA

FIGURE 5B

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF  
First Inventor: Richard B. ROTH  
Docket No.: 524592003800  
Sheet 73 of 87

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***** ** *****
Prim.cons.  TATAGATATTGC2CG2CAGACTGCACAGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTA

          1770      1780      1790      1800      1810      1820      1830      1840
          |        |        |        |        |        |        |        |
Human      ATAATATATTTCTTCATGAAGACCTCACAGTAAAAATAGGTGATTTTGGTCTAGCTACAGTGAATCTCGATGGAGTGGG
Mouse      ATAATATATTTCTTCATGAAGACCTCACGGTAAAAATAGGTGACTTTGGTCTAGCCACAGTGAATCTCGGTGGAGTGGG
          *****
Prim.cons.  ATAATATATTTCTTCATGAAGACCTCAC2GTAAAAATAGGTGA2TTTGGTCTAGC2ACAGTGAATCTCG2TGGAGTGGG

          1850      1860      1870      1880      1890      1900      1910      1920
          |        |        |        |        |        |        |        |
Human      TCCCATCAGTTTGAACAGTTGTCTGGATCCATTTTGTGGATGGCACCAGAAGTCATCAGAATGCAAGATAAAAAATCCATA
Mouse      TCCCATCAGTTTGAACAGTTGTCTGGATCTATTTTGTGGATGGCACCAGAAGTAATCAGAATGCAAGATAAAAAACCCGTA
          *****
Prim.cons.  TCCCATCAGTTTGAACAGTTGTCTGGATC2ATTTTGTGGATGGCACCAGAAGT2ATCAGAATGCAAGATAAAAA2CC2TA

          1930      1940      1950      1960      1970      1980      1990      2000
          |        |        |        |        |        |        |        |
Human      CAGCTTTCAGTCAGATGTATATGCATTTGGGATTGTTCTGTATGAATTGATGACTGGACAGTTACCTTATTCAAACATCA
Mouse      TAGCTTTCAGTCAGATGTGTATGCGTTTGGGATTGTTCTGTACGAAGTATGACCGGCCAGCTACCTTATTCAAACATCA
          *****
Prim.cons.  2AGCTTTCAGTCAGATGT2TATGC2TTTGGGATTGTTCTGTA2GAA2TGATGAC2GG2CAG2TACCTTATTCAAACATCA

          2010      2020      2030      2040      2050      2060      2070      2080
          |        |        |        |        |        |        |        |
Human      ACAACAGGGACCAGATAAATTTTATGGTGGGACGAGGATACCTGTCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA
Mouse      ACAACAGGGATCAGATAAATTTTATGGTGGGACGAGGATACCTATCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA
          *****
Prim.cons.  ACAACAGGGA2CAGATAAATTTTATGGTGGGACGAGGATACCT2TCTCCAGATCTCAGTAAGGTACGGAGTAACTGTCCA

          2090      2100      2110      2120      2130      2140      2150      2160
          |        |        |        |        |        |        |        |
Human      AAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAAAGAGATGAGAGACCACCTCTTCCCCAAATCTCGCCTC
Mouse      AAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAAAGAGACGAGAGACCACCTCTTCCCCAAATCTCGCCTC
          *****
Prim.cons.  AAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAAAGAGA2GAGAGACCACCTCTTCCCCAAATCTCGCCTC

          2170      2180      2190      2200      2210      2220      2230      2240
          |        |        |        |        |        |        |        |
Human      TATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCCTCCTTGAATCGGGCTGGTTTCCAAA
Mouse      CATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACCCTCCTTGAATCGGGCTGGTTTCCAAA
          *****
Prim.cons.  2ATTGAGCTGCTGGCCCGCTCATTGCCAAAAATTCACCGCAGTGCATCAGAACC2TCCTTGAATCGGGCTGGTTTCCAAA

          2250      2260      2270      2280      2290      2300      2310      2320
          |        |        |        |        |        |        |        |
Human      CAGAGGATTTTAGTCTATATGCTTGTGCTTCTCCAAAAACCCATCCAGGCAGGGGGATATGGTGGCTTTCTGTCCAC
Mouse      CAGAAGATTTTAGTCTGTATGCTTGTGCTTCTCCGAAACACCCATCCAAGCAGGGGGATATGGTGGGTTTCCAGTCCAC
          *****
Prim.cons.  CAGA2GATTTTAGTCT2TATGCTTGTGCTTCTCC2AAACACCCATCCA2GCAGGGGGATATGGTG2GTTTCC2GTCCAC

Human      TGA
Mouse      TGA
          ***
Prim.cons.  TGA

```

Alignment data :  
Alignment length : 2323  
Identity (\*) : 1505 is 64.79 %  
Strongly similar (:) : 0 is 0.00 %  
Weakly similar (.) : 0 is 0.00 %  
Different : 818 is 35.21 %  
Sequence 0001 : Human ( 2298 residues).  
Sequence 0002 : Mouse ( 1980 residues).

CLUSTALW options used :  
dnamatrix=iub  
endgaps=1  
gapdist=8  
gapext=0.05  
gapopen=10.0  
ktuple=1

FIGURE 5C

maxdiv=40  
outorder=aligned  
pairgap=3  
score=percent  
topdiags=5  
type=DNA  
window=5

**FIGURE 5D**





Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 76 of 87

Prim. cons.	2TA2AA2TTTCA22AGC22TGTAG2AC22AAGT2CCTACTGATGTGTGT22A2T2TGA22AA2AT22222GCT2TTGCT
	890 900 910 920 930 940 950 960
Human	GTCTCCAAGTTCTTTGAACACCAACCAATACCCAGGAAGAGGCGTCCTTAGCAGAGACTGCCCTAACATCTGGATCATC
Rat	GTTTCCAAATT-----CCACTGCAA---GTGAC---AGTGGAG---TCCCAGCA-----CCAC
	** ***** **
Prim. cons.	GT2TCCAA2TTCTTTGAACACCAACCAATACCAC2G2AAGAGG2G2CCTTAG22GAGACTG2CC2A2CATCTGGA2CA2C
	970 980 990 1000 1010 1020 1030 1040
Human	CCCTTCCGCACCCGCTCGGACTCTA---TTGGGCCCCAAATTCTCACCAGT---CCGTCTC-----CTTCAAATCCAT
Rat	CTCTTTCACAAT-GCGTCGGATGCGAGAATCTGTTTCCCGGATGCCTGCTAGTTCCCAGCACAGATACTCCACACCCCAT
	* * * * *
Prim. cons.	C2CTT2C2CA22CGC2TCGGA22C2AGAAT2TG222CCC22AT2C222C2AGTTCCT22C2CAGATACT2CA2A22CCAT
	1050 1060 1070 1080 1090 1100 1110 1120
Human	---TCCAATTCCACAGCCCTTCCGACCAGCAGATGAAGATCATCGAAATCAATTGGGCAACGAGACCGATCCTCATCAG
Rat	GCCTTCACTTTCA-ACACCTCCAGCCCTTCTCTGAAGGTTCCCTGTCCAG---AGGCA--GAGGTCAA-----CGTCCA
	* * * * *
Prim. cons.	GCCT2CA2TT2CACA22CCT2C2G2CC22C222TGAAGT2T22C22222CA2TTT2GGCAACGAG22C2ATCCT2C2C2
	1130 1140 1150 1160 1170 1180 1190 1200
Human	CTCCCAATGTGCATATA---AACACAATAGAACCTGTCAATATTGATGACTTGATTAGAGACCAAGGATTTCTGTTGAT
Rat	CTCCCAATGTCCACATGGTCAGCACCACCTGCCTGTGGACAGC-AGGA--TGATTGAGGAT---GCATTGCAAGTCAC
	* * * * *
Prim. cons.	CTCCCAATGT2CA2AT2GTCA2CAC2A2222CCTGT2A2A22GA2GACTTGATT222GA2CAAG2A2TTTCG22GT2A2
	1210 1220 1230 1240 1250 1260 1270 1280
Human	GGAGGATCAACCACAGGTTTGTCTGTACCCCTGCTCATTACCTG-GCTCACTAA-CTAACGTGAAAGCCTTACAG
Rat	AGTGAATCAGCCTCACCTTCAGCC-CTGTCCAGCAGCCCCAACCACTGAGCCCAACAGGCTG--GTCACAGCC---C--
	* * * * *
Prim. cons.	2G2G2ATCA2CC2CA22TT222C2GCT22CC22C222CC22A2ACCTGAGC2CA22A2GCT2ACGT2A2AGCCTTACAG
	1290 1300 1310 1320 1330 1340 1350 1360
Human	AAATCTCCAGGACCTCAGCGAGAAAGGAAGTCATCTTCATCCTCAGAAGACAGGAATCGAATGAAAACA--CTTGGTAGA
Rat	AAAACCCCTGTGCCAGCACAAAGAGAGAGGGCGCCAGGATCT--GGGACCCAGGAAAAAACAATAATAGGCCCTCGTGGG
	* * * * *
Prim. cons.	AAA2C2CC2G22CC2222C2A2A22GA2G2C2222ATC2TC2G2A22CAGGAA22A2AAA22AGGC2T2GT2G2
	1370 1380 1390 1400 1410 1420 1430 1440
Human	CGG--GACTCGAGTGATGATTGGGAGATTCCTGATGGCGAGATTACAGTGGGACAAAGAATTGGATCTGGATCATTTGG
Rat	CAGAGAGATTCAAGTTATTACTGGGAAATAGAAGCCAGTGAGGTGATGCTGTCTACTCGGATTGGCTCGGGCTCCTTTGG
	* * * * *
Prim. cons.	C2GAGAGA2TC2AGT2AT2A2TGGGA2AT2222G22G2AG2T2A222TG22222G22ATGG2TC2GG2TC2TTTGG
	1450 1460 1470 1480 1490 1500 1510 1520
Human	AACAGTCTACAAGGGAAAGTGGCATGGTGATGTGGCAGTGAAAAATGTTGAATGTGACAGACCTACACCTCAGCAGTTAC
Rat	CACTGTGTACAAGGGCAAGTGGCATGGAGATGTTGCAGTAAAGATCCTAAGGTGGTTGACCCAACTCCAGAGCAACTTC
	* * * * *
Prim. cons.	2AC2GT2TACAAGGG2AAGTGGCATGG2GATGT2GCAGT2AA2AT22T2AA2GTG22G22CC2AC2CC22AGCA2T2C
	1530 1540 1550 1560 1570 1580 1590 1600
Human	AAGCCTTCAAAAAATGAAGTAGGAGTACTCAGGAAAAACACGACATGTGAATATCCTACTCTTCATGGGCTATTCCACAAAG
Rat	AGGCCTTCAGGAACGAGGTGGCTGTTTTCGCGCAAAACACGGCATGTTAATATCCTGCTGTTTCATGGGGTACATGACAAAG
	* * * * *
Prim. cons.	A2GCCTTCA22AA2GA2GT2G22GT22T2G2AAAACACG2CATGT2AATATCCT2CT2TTCATGGG2TA222ACAAAG
	1610 1620 1630 1640 1650 1660 1670 1680
Human	CCACAAC-TGGCTATTGTTACCCAGTGGTGTGAGGGCTCCAGCTTGTATCACCATCTCCATATCATTGAGACCAAAATTG
Rat	G-ACAACCTGGCGATTGTGACCCAGTGGTGTGAAGGCAGCAGTCTCTACAACACCTGCATGTCCAGGAGACCAAAATTC
	* * * * *
Prim. cons.	2CACAACCTGGC2ATTGT2ACCCAGTGGTGA2GGC2CAG22T2TA22A2CA2CT2CAT22GAGACCAAAATT22
	1690 1700 1710 1720 1730 1740 1750 1760
Human	AGATGATCAAACCTATAGATATTGCACGACAGACTGCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGA
Rat	AGATGTTCCAGCTAATTGACATTGCCCGGCAGACAGCTCAGGAATGGACTATTTACATGCAAGAACATCATCCACAGA

FIGURE 6B

```

*****
Prim.cons. AGATG2TC2A2CT2AT2GA2ATTGC2CG2CAGAC2GC2CAGGG2ATGGA2TA2TTACA2GC2AAG22ATCATCCACAGA

          1770      1780      1790      1800      1810      1820      1830      1840
          |         |         |         |         |         |         |         |
Human      GACCTCAAGAGTAATAATATATTCTTCATGAAGACCTCACAGTAAAAATAGGTGATTTGGTCTAGCTACAGTGAAATC
Rat        GACATGAAATCCAACAATATATTCTCCATGAAGGCCTCACGGTGAAAAATCGGAGATTTGGTTTGGCAACAGTGAAGTC
          *** * **          *****
Prim.cons. GAC2T2AA222AA2AATATATTCT2CATGAAG2CCTCAC2GT2AAAA2GG2GATTTGGT2T2GC2ACAGTGAA2TC

          1850      1860      1870      1880      1890      1900      1910      1920
          |         |         |         |         |         |         |         |
Human      TCGATGGAGTGGGTCCCATCAGTTTGAACAGTTGTCTGGATCCATTTTGTGGATGGCACCAGAAGTCATCAGAATGCAAG
Rat        GCGCTGGAGTGGTTCTCAGCAGGTTGAACAGCCCACTGGCTCTGTGCTGTGGATGGCCCCAGAAGTAATCCGAATGCAGG
          ** ***** * * * * *
Prim.cons. 2CG2TGGAGTGG2TC2CA2CAG2TTGAACAG2222CTGG2TC22T2TGTGGATGGC2CCAGAAG2ATC2GAATGCA2G

          1930      1940      1950      1960      1970      1980      1990      2000
          |         |         |         |         |         |         |         |
Human      ATAAAAATCCATACAGCTTTCAGTCAGATGTATATGCATTGGGATTGTCTGTATGAATTGATGACTGGACAGTTACCT
Rat        ATAACAACCGTTCCAGTTCAGTCCGATGTCTACTCCTATGGCATTGTCTGTATGAGCTGATGACTGGGGAGCTTCCC
          **** * * * * *
Prim.cons. ATAA2AA2CC2T2CAGCTT2CAGTC2GATGT2TA2C2T2TGG2ATTGT2CTGTATGA22TGATGACTGG22AG2T2CC2

          2010      2020      2030      2040      2050      2060      2070      2080
          |         |         |         |         |         |         |         |
Human      TATTCAAACATCAACAACAGGGACCAGATAATTTTATGGTGGGACGAGGATACCTGTCTCCAGATCTCAGTAAGGTACG
Rat        TACTCCCACATCAACAACCGAGACCAGATCATCTTCATGGTGGGCCGTGGGTACGCCCTCCCGAGATCTTAGCAGGCTCTA
          ** * *****
Prim.cons. TA2TC22ACATCAACAAC2G2GACCAGAT2AT2TT2ATGGTGGG2CG2GG2TAC222TC2CCAGATCT2AG2A2G2T222

          2090      2100      2110      2120      2130      2140      2150      2160
          |         |         |         |         |         |         |         |
Human      GAGTAACTGTCCAAAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAAAGAGATGAGAGACCCTCTTTCCCC
Rat        CAAGAAGTCCCCAAGGCAATGAAGAGTTGGTGGCTGACTGTGTGAAGAAAGTCAAAGAAGAAAGGCCCTTGTTCCTC
          * *****
Prim.cons. 2A22AACTG2CC2AA2GC2ATGAAGAG2TT22TGGC2GA2TG22T2AA2AA222A2AGA2GA2AG2CC22T2TTCC2C

          2170      2180      2190      2200      2210      2220      2230      2240
          |         |         |         |         |         |         |         |
Human      AAATTCTCGCCTCTATTGAGCTGCTGGCCCGCTCATTGCCAAAATTACCCGAGTGCATCAGAACCCTCCTTGAATCGG
Rat        AGATCCTGTCTTCCATTGAGCTGCTTCAGCACTCTCTGCCGAAAATCAACAGGAGCGCCTCTGAGCCTTCCCTGCATCGG
          * * * * *
Prim.cons. A2AT2CT22C2TC2ATTGAGCTGCT2222C2CTC22TGCC2AAAAT22AC2G2AG2GC2TC2GA2CC2TCC2TG2ATCGG

          2250      2260      2270      2280      2290      2300      2310      2320
          |         |         |         |         |         |         |         |
Human      GCTGGTTTCCAAACAGAGGATTTAGTCTATATGCTTGTGCTTCTCCAAAACACCCATCCAGGCAGGGGATATGGTGC
Rat        GCAGCT---CACACTGAGGACATCA-----ATGCTTGTACG---CTGACCACATCC---CCA-----AG-----
          ** * * * *
Prim.cons. GC2G2TTTCCA2AC2GAGGA22T2AGTCTATATGCTTGT2C2TCTC22A22ACA2CCATCCAGGCAGG2GGATATGGTGC

          2330
          |
Human      GTTTCCTGTCCACTGA
Rat        GCTACCACTCTTCTAG
          * * * * *
Prim.cons. G2T2CC2GTC22CT22

```

Alignment data :  
Alignment length : 2336  
Identity (\*) : 1291 is 55.27 %  
Strongly similar (:) : 0 is 0.00 %  
Weakly similar (.) : 0 is 0.00 %  
Different : 1045 is 44.73 %  
Sequence 0001 : Human ( 2298 residues).  
Sequence 0002 : Rat ( 1947 residues).

CLUSTALW options used :  
dnamatrix=iub  
endgaps=1  
gapdist=8  
gapext=0.05  
gapopen=10.0  
ktuple=1

FIGURE 6C

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

Sheet 78 of 87

```
maxdiv=40  
outorder=aligned  
pairgap=3  
score=percent  
topdiags=5  
type=DNA  
window=5
```

**FIGURE 6D**

>gi|1170701|sp|P15056|KRAB\_HUMAN B-Raf proto-oncogene serine/threonine-  
protein kinase (p94) (v-Raf murine sarcoma viral oncogene homolog B1)

>Human.

MAALSGGGGGAEPGQALFNGDMEPEAGAGRPAASSAADPAIPEEVWNIKQMIKLTQEHIEALLDKFGGE  
HNPPSIYLEAYEYTSKLDALQQREQQLLESLGNGTDFSVSSSASMDTVTSSSSSSLSVLPSSLSVFQNP  
TDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGWD  
TDISWLTGEELHVEVLENVPLTHNFVRKTFFTLAFCDFCRKLLFQGFRCQTCGYKFHQRCSTEVPLMCV  
NYDQLDLLFVSKFFEHHPIPQEEASLAETALTSGSSPSAPASDSIGPQILTSPSPSKSIPIQPFRPADE  
DHRNQFGQRDRSSSAPNVHINTIEPVNIDDLIRDQGFRGDGGSTTGLSATPPASLPGLTNVKALQKSPG  
PQERERKSSSSSEDRNRMKTLGRRDSSDDWEIPDGQITVGQRIGSGSFGTVYKGKWHGDAVAVKMLNVTAPT  
PQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIIETKFEMIKLIDIAHQTA  
QGMDYLHAKSIIHRDLKSNNIFLHEDLTVKIGDFGLATVKSRWSGSHQFEQLSGSILWMAPEVIRMQDKN  
PYSFQSDVYAFGIVLYELMTGQLPYSNINNRDQIIFMVGRGYLSPDLSKVRSNCPKAMKRLMAECLKKKR  
DERPLFPQILASIELLARSLPKIHRSASEPSLNRAFGQTEDFSLYACASPKTPIQAGGYGAFPVH

FIGURE 7A

>gi|18497290|ref|NP\_084056.1| protein kinase raf 1; murine sarcoma 3611  
oncogene 1; sarcoma 3611 oncogene [Mus musculus]

>Mouse.

MEHIQGAWKTISNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDSKTSNTIRVFLPNKQRTVV  
NVRNGMSLHDCLMKALKVRGLQPECCAVFRLLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHN  
FARKTFLKLAFCDICQKFLNGFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTVGDSGVPAPP  
SFPMRMRRESVSRMPASSQHRYSTPHAFTFNTSSPSSEGSLSQRQRSTSTPNVHMVSTTLHVDSRMIEDA  
IRSHSESASPSALSSSPNNLSPTGWSQPKTPVPAQRERAPGSGTQEKKNIRPRGORDSSYYWEIEASEVM  
LSTRIGSGSFGTVYKKGWHGDVAVKILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIV  
TQWCEGSSLYKHLHVQETKFQMFQLIDIARQTAQGMDYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLA  
TVKSRWGSQQVEQPTGSVLWMAPEVIRMQDDNPFSFQSDVYSYGIVLYELMAGELPYAHINNRDQIIIFM  
VGRGYASPDLSRLYKNCPKAMKRLVADCVKVKKEERPLFPQILSSIELLQHSPLKINRSASEPSLHRAAH  
TEDINACTLTTSRPLPVF

**FIGURE 7B**

>gi|125653|sp|P11345|KRAF\_RAT RAF proto-oncogene serine/threonine-protein  
kinase (RAF-1) (C-RAF)

>Rat.

MEHIQGAWKTI SNGFGLKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDS SKTSNTIRVFLPNKQRTVV  
NVRNGMSLHDCLMKALKVRGLQPECCAVFRLLQEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHN  
FARKTFLKLAFCDICQKFLNGFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTASDSGVPAPP  
SFTMRMRRESVSRMPASSQHRYSTPHAFTFNTSSPSSEGSLSQRQRSTSTPNVH MVSTLPVDSRMIEDA  
IRSHSESASPSALSSSPNNLSPTGWSQPKTPVPAQRERAPGSGTQEKNKIRPRGQRDSSYYWEIEASEVM  
LSTRIGSGSFGTVYKGKWHGDVAVKILKVVDPTPEQLQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIV  
TQWCEGSSLYKHLHVQETKFQMFQLIDIARQTAQGMDYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLA  
TVKSRWGSQQVEQPTGSVLWMAPEVIRMQDNNPF SFQSDVYSYGIVLYELMTGELPYSHINNRDQIIFM  
VGRGYASPDLSRLYKNC PKAMKRLVADCVKVKVKEERPLFPQILSSI ELLQHSLPKINRSASEPSLHRAAH  
TEDINACTLTTSPLRPVF

FIGURE 7C



>gi|15227883|ref|NP\_179361.1| putative protein kinase [Arabidopsis  
thaliana]

>Arabidopsis.

MTIKDESESCGSRAVVASPSQENPRHYRMKLDVYSEVLQRLQESNYEEATLPDFEDQLWLHFNRLPARYA  
LDVKVERAEDVLTHQRLLKLAADPATRPVFEVRSVQVSPRISADSDPAVEEDAQSSHQPSGPGVLAPPTF  
GSSPNFEAITQGSKIIVEDVDSVVNATLSTRPMHEITFSTIDKPKLLSQLTSLLGELGLNIQEAHAFSTVD  
GFSLDVFVVDGWSQEETDGLRDALSKEILKLDQPGSKQKSISFFEHDKSSNELIPACIEIPTDGTDEWE  
IDVTQLKIEKKVASGSYGDLHRGTYCSQEVAIKFLKPDRVNNEMLREFSQEVFIMRKVRHKNNVQFLGAC  
TRSPTLCIVTEFMARGSIYDFLHKQKCAFKLQTLLKVALDVAKGMSYLHQNNIIHRDLKTANLLMDEHGL  
VKVADFGVARVQIESGVMTAETGTYRWMAPEVIEHKPYNHKADVFSYAIVLWELLTGDIPYAFLTPLQAA  
VGVVQKGLRPKIPKKTHTPKVKGLLERCWHQDPEQRPLFEEIIEMLQQIMKEVNVVV

**FIGURE 7D**

>gi|422343|pir||S33261 protein kinase lin-45 (EC 2.7.1.-) - Caenorhabditis  
elegans

>C elegans.

MSRINFKKSSASTTPTSPHCPSRLISLPRCASSSIDRKDQASPMASPSTPLYPKHSDSLHSLSGHHSAG  
GAGTSDKEPPKFYKMIMVHLPFQHSRVEVRPGETARDAISKLLKKRNITPQLCHVNASSDPKQESIEL  
SLTMEEIASRLPGNELWVHSEYLNVTSSIKHAIVRRTFIPPKSCDVCNNPIWMMGFRCEFCQFKFHQRCS  
SFAPLYCDLLQSVPKNEDLVKELFGIASQVEGPDRSVAEIVLANLAPTSGQSPAATPDSSHPDLTSIKRT  
GGVKRHPMAVSPQNETSQLSPSGPYPRDRSSAPNINAINDEATVQHNQRILDALEAQRLEESRDKTGS  
LLSTQARHRPHFQSGHILSGARMNRLHPLVDCTPLGSNSPSSSTCSSPPGGLIGOPTLGQSPNVSGSTTSS  
LVAAHLHTLPLTPPQSAPPQKISPGFFRNRSRSPGERLDAQRPRPPQKPHHEDWEILPNEFIIQYKVGSG  
SFGTVYRGEFFGTVAIKKLNVDPTPSQMAAFKNEVAVLKKTRHLNVLLFMGWVREPEIAIITQWCEGSS  
LYRHIHVQEPRVEFEMGAIIDILKQVSLGMNYLHSKNIIHRDLKTNNIFLMDDMSTVKIGDFGLATVTKK  
WTVNGGQQQQPTGSILWMAPEVIRMQDDNPYTPQSDVYSFGICMYEILSSHLPYSNINNRRDQILFMVGR  
GYLRPDRSKIRHDTPKSMLKLYDNCIMFDRNERPVFGEVLERLRDIILPKLTRSQSAPNVHLHDSQYSVM  
DAVMRSQMLWSYIPATAKTPQSAAAAAARNKKAYYNVYGLI

**FIGURE 7E**

>gi|17933524|ref|NP\_525047.1| pole hole; pole-hole; raf-like-oncogene-1;  
l(1)pole hole; Raf [Drosophila melanogaster]

>Drosophila.

MSSESSTEGDSDLYDPLAEELHNVQLVKHVTRENIDALNAKFANLQEPPAMYLIEYQELTSKLHELEAKE  
QELMERLNSQDQEDSSLVERFKEQPHYQNQTQILQQQRQLARVHHGNDLTDLSLGSQPGSQCGTLTROPK  
ILLRAHLPNQRTSVEVISGVRLCDALMKALKLRQLTPDMCEVSTTHSGRHII PWHTDIGTLHVEEIFVR  
LLDKFPIRTHIKHQIIRKTTFFSLVFCEGCRLLFTGFYCSQCNRFRHQRCANRVPMLCQPFPMDSYYQLL  
LAENPDNGVGFPGRGTAVRFNMSSRSRRCSSSSGSSSSSKPPSSSSGNHRQGRPPRISQDDRSNSAPNV  
CINNIRSVTSEVQRSLIMQARPPLPHPCTDHSNSTQASPTSTLKHNRPRARSADESKNLLLRDAKSSEE  
NWNILAEIILIGPRIGSGSFGTVYRAHWHGPVAVKTLNVKTPSPAQLQAFKNEVAMLKTRHCNILLFMG  
CVSKPSLAIVTQWCEGSSLYKHVHVSETKFKLNTLIDIGRQVAQGM DY LHAKNIIHRDLKSNNIFLHEDL  
SVKIGDFGLATAKTRWSGEKQANQPTGSILWMAPEVIRMQELNPYSFQSDVYAFGIVMYELLAECLEPYGH  
ISNKDQILFMVGRGLLRPDMSQVRSDAPQALKRLAEDCIKYTPKDRPLFRPLLNMLENMLRTL PKIHRSA  
SEPNLTQSQLQNDEFLLYLPSPKTPVNFNNFQFFGSAGNI

**FIGURE 7F**

Title: METHODS FOR IDENTIFYING SUBJECTS AT RISK OF  
MELANOMA AND TREATMENTS THEREOF

First Inventor: Richard B. ROTH

Docket No.: 524592003800

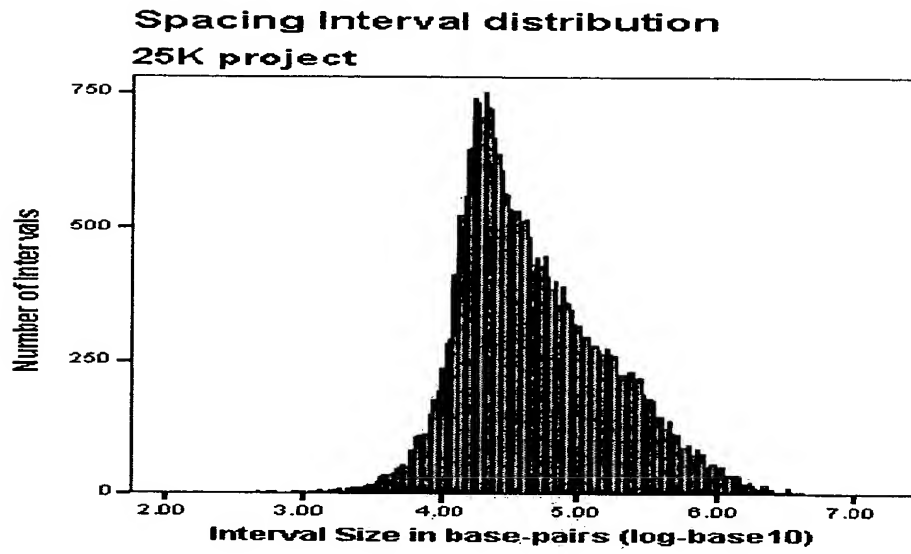
Sheet 85 of 87

Human.	MAALSGGGGGGAEPGQALFNGDMEPEAGRPAASSAADPAIPEEVWNKQMIKLTQEHI
Mouse.	-----
Rat.	-----
Arabidopsis.	-----
C	-----M
Drosophila.	-----MSSESSTEGSDSLYDPLAEELHNVQLVKHVTRENI
Human.	EALLDKFGGEHNPPSIYLEAYEYTSKLDALQQREQQLESNGTDFSVSSASMDTVT
Mouse.	-----MEHIQGAWKTIISNGFGLKDAVF
Rat.	-----MEHIQGAWKTIISNGFGLKDAVF
Arabidopsis.	-----
C	SRINFKKSSASTTPT-----SPHCPSRLISLPRCASSSIDRKDQAS
Drosophila.	DALNAKFANLQEPAMYLIYQELTSKLHELEAKEQELMERLNSQDQEDSSLVERFKEQ
Human.	SSSSSSSLVLPSSLSVFQ-----NPTDVARSNPKSP-----QKPIRVFLPNKQRTVV
Mouse.	DGSSCISPTIVQQFGYQR-----RASDDGKLTDSK-----TSNTIRVFLPNKQRTVV
Rat.	DGSSCISPTIVQQFGYQR-----RASDDGKLTDSK-----TSNTIRVFLPNKQRTVV
Arabidopsis.	-----MTIKDESESCGSR-----AVVASPSQENPRHYRM
C	PMASPSTPLYPKHSDSLHSLSGHHSAGGAGTSDKEP-----PKFKYKMIMVHLFPDQHSRV
Drosophila.	PHYQNQTQILQQRQLARVHHGNDLTDLSGSPGSCGTLTRQPKILLRAHLPNQRTSV
Human.	PARCGVTVRDSLKKALMMRGLIPECCAVYRI-----QDGEKKPIGWDTDISWLTGEELHV-
Mouse.	NVRNGMSLHDCIMKALKVRGLQPECCAVFRLQ-EHKGKKARLDWNTDAASLIGEELQV-
Rat.	NVRNGMSLHDCIMKALKVRGLQPECCAVFRLQ-EHKGKKARLDWNTDAASLIGEELQV-
Arabidopsis.	KLVDYSEVLQRLQESNYEEATLPDFEDQLWL-----HFNRLPARYALDVKVERAEDVLTH
C	EVVRPGETARDAISKLLKRNITPQLCHVNASSDPKQESIELSLTMEEIASRLPGNELVWH
Drosophila.	EVISGVRLCDALMKALKRLQPTDMCEVSTT-----HSGRHIIPWHTDIGTLHVEEIFV-
Human.	-EVLNVPLTTH---NFVRKTFFTLAFCDFCRK-LLFQGFRCQTCGYKFHQRCEVPLM
Mouse.	-DFLDHVPLTTH---NFARKTFLKLAFCDICQK-FLLNGFRCQTCGYKFHEHCSTKVPTM
Rat.	-DFLDHVPLTTH---NFARKTFLKLAFCDICQK-FLLNGFRCQTCGYKFHEHCSTKVPTM
Arabidopsis.	QRLKLADPAT-----RPVFEVRSVQVSPRI-SADSDPAVEEDAQSSHQPSGPGVLAP
C	SEYLVNTVSSIKH---AIVRRTFIPPKSCDVCNNPIWMMGFRCEFCQKFKHQRCSFAPLY
Drosophila.	-RLDKFPIRTHIKHQIRKTFSLVFCEGCR-LLFTGFYCSQCNRFRHQRANRVPLM
Human.	CVNY-----DQLDLLFVSKFFEHHPIPQEEASLAETAL---TSGSSSPAPASDSIGP
Mouse.	CVDW-----SNIRQLLLF-----PNSTVGDSGV---PAPPSFPMRRMRRESVS
Rat.	CVDW-----SNIRQLLLF-----PNSTASDSGV---PAPPSFPMRRMRRESVS
Arabidopsis.	PTFG-----SSPNFE-AIT-----QGSKIVEDVD---SVVNATLSTRPMHEI
C	CDLLQSVPKNEDLVKELFGIA---S-QVEGPDERSVAEIVLANLAPTSQGSPAATPDSSHP
Drosophila.	CQPFPM-----DSYYQLLLAE-----NPDNGVGFPGR---GTAVRFNM-SSRSRSR
Human.	QILTSPPSKSIPIPPFRPADEDHRNQFG---QRDRSSAPNVH-INTIEPVNIDD-LI
Mouse.	RMPASSQHRYSTPHAFTFNTSSPSSEGSLS---QRQRSTSTPNVHMVSTTLHVDSRM-IE
Rat.	RMPASSQHRYSTPHAFTFNTSSPSSEGSLS---QRQRSTSTPNVHMVSTTLPVDSRM-IE
Arabidopsis.	TFSTIDKPKLLSQTSLLGELGLNIQEAHA---FSTVDGFSLDVFDVVDGWSQEETDG-LR
C	DLTSIKRTGGVKRHPMAVSPQNETSQSPSGPYPRDRSSAPNINAINDEATVQHNQRIL
Drosophila.	RCSSSGSSSSKPPSSSSGNHRQGRPPRIS---QDDRSNSAPNVC-INNIRSVTSE--VQ
Human.	RDQGFRG-----DGGSTTG
Mouse.	DAIRSHS-----ESASPSA
Rat.	DAIRSHS-----ESASPSA
Arabidopsis.	DALSKEI-----LK
C	DALEAQRLEEESRDKTGSLSTQARHRPHFQSGHILSGARMNRLHPLVDCTPLGNSPSS
Drosophila.	RSLIMQA-----RPPLPHP
Human.	LSATPP-----ASLPGSLTNVKAL-----QKSPGP-----QERKS
Mouse.	LSSSPN-----NLSPTGWSQ-----PKTPVPA-----QERAP
Rat.	LSSSPN-----NLSPTGWSQ-----PKTPVPA-----QERAP
Arabidopsis.	LKDQPG-----SKQKSISF-----FEHDK
C	TCSSPPGGLIGQPTLQSPNVSGSTTSLVAHLHTLPLTPQSAFPQKISPGFFNRNR
Drosophila.	CTDHSN-----STQASPTST-----LKH-----NRPRAR
Human.	SSSSEDRNRMKTLGRDSSDDWEIPDQGITVQQRIGSGSFGTVYKGKW-HGDVAVKMLNV

FIGURE 8A

## Sheet 86 of 87

**FIGURE 8B**



**FIGURE 9**